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THE UNIVERSITY OF ALBERTA

AN INVESTIGATION OF GRADE FIVE STUDENTS'
READING UNDERSTANDING OF SIMILES

by



HEATHER R. BURT

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled 'AN INVESTIGATION OF GRADE FIVE STUDENTS' READING UNDERSTANDING OF SIMILES,' submitted by HEATHER R. BURT in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

Upper elementary students are confronted with figurative language in their reading of literature but little is known about their reading understanding of such language.

This study investigated grade five students' reading understanding of similes, a specific figure of speech.

Subjects used in the study were ninety-three grade five students enrolled in three elementary schools of the County of Strathcona, located on the eastern extremity of Edmonton, Alberta.

The students' reading understanding of similes was measured using a multiple-choice similes test and a free response interview. Student background experiences were assessed using a structured questionnaire. These instruments were devised by the investigator.

From the test sample, seventy-four students received the similes test and nineteen students were interviewed. Both groups of students completed the questionnaire.

There was a range of students' reading understanding of similes. The responses of the students on the multiple-choice test showed greater understanding than the responses of the students who were interviewed.

Data were subjected to statistical analyses and a descriptive analysis. Statistical analyses revealed that there were significant relationships between the student's mental ability, reading ability, chronological age, certain background experiences and the criterion scores on the multiple-choice test. There was no significant relationship between the sex of the student and the criterion scores on the multiple-choice test.

Descriptive analysis indicated that students who had the least reading understanding of similes had the lowest mental ability and reading ability scores and tended to be the oldest. The similes that most students understood were ones involving comparisons between people and animals while the most difficult demanded the relating of several concepts, especially inanimate ones, and contained words whose meanings were unknown to the student.

For the students interviewed, their experiences, especially those of a reading nature, seemed to aid the understanding of similes. However, similes evoked stated feelings even though their meanings had not been verbalized. Students used similes in their oral responses.

It was concluded that grade five students showed differences in their levels of reading understanding of specific similes and that factors in both the students and the similes contributed to this understanding. Several implications presented themselves for both the programmes of the educator and the writing of the author.

From the findings of this study, suggestions were presented for further research. Students' reading understanding of specific similes could be investigated using instruments controlling the various syntactic and semantic elements. A comparison could be made between the nature and use of similes by children and authors. Another suggestion was advanced regarding investigations into the quantitative and qualitative aspects of other figurative expressions in children's literature.

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CHAPTER I

AN OVERVIEW

STATEMENT OF THE PROBLEM

When authors use figurative language in literature written for the child reader, the assumption by the author is that children are able to gain meaning suitable to the context from such language. When the reading process was viewed from the proficient reader's point of view, Clymer (1968, p. 28) suggested four main aspects. These were:

1. word perception
2. grasping the author's meaning
3. testing and recombining the author's message with the understanding and background of the reader
4. application and extension of the author's ideas to new settings.

This study was centred in the second and third items. The Alberta Department of Education considered them as the fourth objective listed in A Reading Handbook, namely, "to develop the ability to comprehend and interpret the literal, implied and inferred meanings in reading material" (1968, p. 6).

Popular approaches to reading instruction to-day suggest the use of a variety of printed materials, particularly literature. Stauffer (1969, p. 368) recommended that approximately two-thirds of the reading instruction time should be devoted to "individualized reading instruction," a programme in which the materials read are in large part self-selected by the pupils and in which specific skill instruction is provided for

the individual student's needs. Such instruction, he suggested, would use children's literature books as a basic source of materials.

This literature contains figurative language. Gill (1954, p. 297) estimated that up to ten per cent of written expression may be figurative. She predicted that this percentage was increasing because of two groups of authors. One group, in attempting to explain such events as moon-walks without using a heavy literal explanation, made use of figurative language. The other group was the writers whose "fetish for small words has left them no choice but to resort to figurative language whenever they have had to convey some new insight or subtlety or dimension" (Gill, 1954, p. 298). Whatever the reason, such language is present and may be on the increase in contemporary writing. Studies have shown that authors, writing for the elementary school reader, use figurative language in readers and textbooks, and that the quantity used increases in the upper elementary grades (Hollingsed, 1958; Groesbeck, 1961).

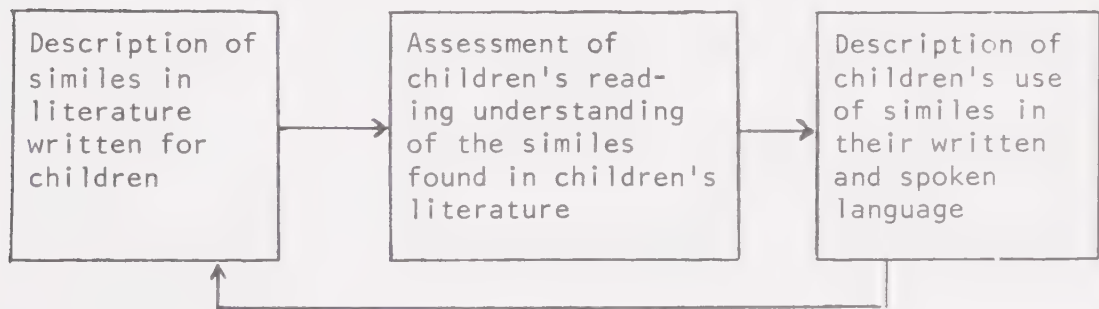
Researchers have investigated children's reading understanding of figurative language but mostly in a quantitative way. Similes, as one type of figurative language, were found to be one of the most common figures of speech. The children understood the meaning of approximately sixty per cent of the similes which they read (Flaum, 1945; Hollingsed, 1958).

An added dimension of the problem in reader understanding of similes may be the lack of instruction provided in materials such as guide books for basal readers. From an informal analysis by this researcher of the instructional guides of two reading series recommended for grades four, five and six, namely, the Language Experience Programme (1965) and Young Canada Readers (1965), a total in each series of less

than five instructional lessons specifically in the understanding of figurative language for the three grades was found.

In summary, one of the reading problems children face is the need to understand figurative language, specifically similes, which they read in literature written for the child reader. There seems to be limited instruction provided for them to aid their understanding of such figurative language. It, therefore, seems necessary first to describe the similes found in literature written for the child reader in both a quantitative and qualitative manner and then to assess the children's understanding of these similes. Thirdly, a comparison could be made between the similes used in children's literature and the children's own use of the similes in their written and spoken language.

This relationship might be diagrammed as follows:



PURPOSE

The purpose of this study was to investigate grade five students' reading understanding of similes, a specific figure of speech. This understanding was measured using the Similes Test, a multiple-choice test, and the Interview, a free response instrument, in order to assess the reader's understanding of specific similes used by authors. In addition, in

order to gain information about some of the background experiences that may have contributed to the child's understanding of similes which he read, a structured questionnaire was used. These three instruments were designed by the researcher for this study.

DEFINITION OF TERMS

In this study the following terms will be used as defined.

Figurative Language

Figurative language is language which deviates from the literal or standard construction, order and significance to achieve special meaning or effect. The various kinds of departure from this standard or literal form are called figures of speech (Norton and Ruston, 1957, p. 36).

Simile

A simile is a figure of speech in which the characteristics of two things, essentially unlike, are presented as similar using the indicators of resemblance, "like" or "as". For example, in the following paragraph, the simile underlined is: "Her wiry little arms were like crayfish pinchers."

She put her arm in mine and started to escort me down the mountain. I certainly was not escorting her. Her wiry little arms were like crayfish pinchers. I couldn't have gotten away if I had tried. So I walked and listened.

This simile is used in the examples in the following definitions.

Subject of the Simile

The subject of the simile is the word or words being referred to or described in the simile. The subject of the above simile is:

"Her wiry little arms."

Vehicle

The vehicle is the word or words that carry the meaning of similarity to the subject of the simile. The vehicle of the above simile is: "crayfish pinchers."

Link

The link applies to the words "as" or "like" which are used to associate the subject with the vehicle. The link in the above simile is "like."

Commonalities

The commonality or commonalities are the characteristics shared by the subject of the simile and the vehicle. Commonalities for the above simile are: smallness, thinness, strength, appendages, appendages used for gripping.

Tenor

The tenor of the simile is the author's meaning. In this study the author's meaning will be interpreted by the researcher and three judges. The tenor for the above simile is: She gripped the person's arm tightly.

Correct Response

The correct responses on the Similes Test are those which indicate understanding of the commonality between the subject of the simile and the vehicle which the context dictates. This response approaches the tenor in meaning. A correct response is: She gripped

his arm tightly. The total of these responses for each student is that student's correct score on the Similes Test.

Partial Meaning Responses

The following three responses indicate an attempt to interpret the whole simile or part of the simile by using only the subject or vehicle. These responses contain only partial meaning for the simile.

Inappropriate Commonality Response

The inappropriate commonality responses on the Similes Test are those which indicate a similarity between the subject of the simile and the vehicle which is not the most pertinent for the specific context of the simile. An inappropriate commonality response is: Her skinny arms . were rough. The total of these responses for each student is that student's wrong commonality score on the Similes Test.

Confused Relationship Response

The confused relationship responses on the Similes Test are those which identify a connection between the subject of the simile and the vehicle or parts of either which was not intended by the author. A confused relationship response is: Her arms were part of a fish. This example shows a misinterpretation of the relationship between "arms" and "crayfish pinchers." The total of these responses for each student is that student's confused relationship score on the Similes Test.

Paraphrasing Response

The paraphrasing responses on the Similes Test are those which indicate restatement of either the subject of the simile or the vehicle or parts of either without elucidating the meaning of the simile. These

responses ignore the comparison between the subject of the simile and the vehicle. A paraphrasing response is: Her little arms are wiry. This example shows a restatement of only the subject of the simile without interpreting the meaning of the simile. The total of these responses for each student is that student's paraphrasing score on the Similes Test.

Incorrect Response

The incorrect responses on the Similes Test are those which introduce a new subject of the simile or vehicle or both which are not suitable to the context. This was not done in the other responses. An incorrect response is: The little girl had her father as a friend. Both a new subject of the simile and a new vehicle have been introduced in this example. The total of these responses for each student is that student's incorrect score on the Similes Test.

Mental Ability

This refers to the child's current functioning level of intelligence as indicated by the total, verbal and non-verbal intelligence quotient scores obtained on the Large-Thorndike Intelligence Test, Level 3.

Reading Ability

This refers to the student's raw score obtained on the Sequential Test of Educational Progress, Reading, Form 4A.

QUESTIONS AND HYPOTHESES

There were several questions of concern to this study.

Question One

Are students in the fifth grade able to identify correctly the meaning of similes in a particular printed context?

This was answered by tabulating the number of each classification of response by the grade five students on the Similes Test and on the Interview.

Question Two

Is there a significant relationship between grade five students' mental ability, reading ability, chronological age, sex, background experiences and the types of responses to similes on a multiple choice test?

This is phrased as the following two research hypotheses:

There is a statistically significant relationship between the mental ability, reading ability, background experience and grade five students' scores on the Similes Test.

There is no statistically significant relationship between the chronological age, sex and grade five students' scores on the Similes Test.

These research hypotheses are phrased as the following null hypotheses:

There is no statistically significant relationship between grade five students'

1. total scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C
2. verbal scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C
3. non-verbal scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C

4. raw scores on the Sequential Test of Educational Progress, Reading, Form 4A

5. chronological age

6. sex

7. background experience as measured by the Questionnaire and their:

a. correct scores

b. inappropriate commonality scores

c. confused relationship scores

d. paraphrasing scores

e. incorrect scores

obtained on the Similes Test.

These hypotheses were tested using statistical analyses.

The following questions were answered by describing the selected data pertaining to each one in order to gain further information about the grade five students' reading understanding of similes as assessed on the Similes Test and Interview.

Question Three

What are the characteristics with respect to mental ability, reading ability, sex, chronological age and background experience of the two groups of students who correctly identified on the Similes Test and Interview the meaning of the most similes and the ones who correctly identified the least similes?

Selected data from the responses on the Similes Test, Interview and Questionnaire, which were designed for use in this study, were used to answer this question.

Question Four

What are the distinctive features of the items that the students on each of the Similes Test and Interview found the easiest and most difficult to understand?

The items assessed to be the most difficult and easiest based on the number of correct responses by the students were described in several ways, including vocabulary content and structure.

The following three questions were answered using the children's responses to three of the questions posed in the Interview.

Question Five

Where do students get clues which they identify as the ones that assisted them in gaining meaning for the similes they read?

Question Six

For what vocabulary in the similes did the students lack meaning?

Question Seven

What similes evoked feelings stated by the students?

The last question, question eight, was answered using all the students' oral responses on the Interview.

Question Eight

Do students use their own similes in their oral responses to questions in an interview situation?

PLAN OF THE RESEARCH

This investigation was carried out during the early part of May, 1971, in three elementary schools from a county consisting of suburban and rural communities bordering on the large urban centre of Edmonton, Alberta. The grade five students from the three schools made up the test population.

The Similes Test, a thirty item multiple-choice instrument, used as criterion measure in this study was constructed by the investigator. A pilot study preceded the final compilation of the Similes Test. The similes used in the test were randomly selected from the similes found in twenty children's literature books. The structure of the five classifications of answer choices in each item of the test was based on the written responses of grade six pupils when asked to give the meaning for six similes in paragraph context.

The free response Interview, using ten of the similes randomly selected from the similes used in the Similes Test, was individually administered to a group of nineteen grade five students selected from two of the schools in this study but who had not received the Similes Test.

The Questionnaire, devised by the researcher to assess background experiences, included items based on Elley's revision of the Gough Home Index Scale (1961), Karlin's Individual Reading Interest Inventory (1964) and A Log of Children's Out-of-School Activities (McCullough, 1957).

Data collected for the study included the total scores, and the verbal and non-verbal scores for the Lorge-Thorndike Intelligence

Tests, Level 3, Forms A or C; the raw scores for the Sequential Test of Educational Progress, Reading, Form 4A; the scores on the Similes Test and Interview; the responses on the Questionnaire. The sex and age of the students were collected for each student from the cumulative records of the school.

Statistical analyses of the data included Item Analysis, Pearson Product Moment Correlation, Stepwise Multiple Linear Regression and One-Way Analysis of Variance programmes carried out using computer programmes provided by the Division of Educational Research Services of the University of Alberta.

In addition, selected data used in the statistical analyses and the data from the interviews were subjected to further examination to gain more information concerning grade five students' reading understanding of similes on the Similes Test and the Interview.

LIMITATIONS

The following limitations are noted:

1. The structure of the Similes Test limited the students' answer choice to five specific pre-structured responses, although the Interview allowed the students to give their own free responses to the similes.
2. The paragraph context in which the simile was presented could have limited the students' reading understanding of the similes.
3. The items included in the Questionnaire may have excluded pertinent information which is most difficult to assess using such an instrument. Such an example would be the quality of oral communication that the child has experienced in home, school and

community.

4. Because of the dissimilarities between the two groups of students, those who received the Similes Test and those who were interviewed, with respect to their scores on the Lorge-Thorndike Intelligence Tests, Level 3, it was necessary to be aware of this in drawing any comparisons between the two groups with regard to their reading understanding of similes.

SIGNIFICANCE

The presence of figurative language in books written for elementary school children is seen in research findings. Boetto (1968, p. 35) recommended that the types of studies needed in the area of children's literature include careful examination both of its components and of children's understanding of literature. A study now in progress at the University of Alberta, by Lockhart (1971), is considering one segment of the first aspect, namely, an analysis of similes found in a selection of children's literature books. The study outlined in this chapter examined a part of the second aspect, an analysis of children's reading understanding of similes in literature written for children. Through these two studies it may be possible to suggest characteristics of similes that grade five children have difficulty understanding. These findings may be pertinent to authors writing for the upper elementary student in that they would be aware of the characteristics in similes that enhance or distort understanding for the grade five student. The results may prove to be useful to the educator both in building curriculum materials and in in-service programmes for teachers. With such knowledge the teacher may be able

to assist students in their reading understanding and enjoyment by instructing them in the interpretation of similes found in their reading materials. As similes are only one figure of speech investigations similar to this study offer a challenge to the researcher and educator.

SUMMARY

The assumption by authors that children can gain meaning from figurative language used in literature written for the child reader and the apparent increase in such language in reading materials for the upper elementary school student raises the concern regarding children's reading understanding of these figurative expressions. Studies have attempted to measure in a quantitative way children's understanding of figurative language but have not examined the qualitative characteristics of specific figures of speech and children's reading understanding of each of them. The apparent paucity of research in this particular area would seem to point to the need to investigate children's understanding of specific figures of speech that they read. Specifically, an investigation was posited to determine grade five students' reading understanding of similes found in literature books written for the child reader.

This chapter contained the definition of terms used in the study, the questions posed, the hypotheses formulated, the plan of the research, the limitations, and the significance of the study.

CHAPTER II

THEORETICAL BACKGROUND AND REVIEW OF RELATED LITERATURE

INTRODUCTION

One of the crucial hurdles confronting the developing reader as he progresses toward maturity in reading comprehension is mastery of the techniques for understanding figurative language. Lack of facility in understanding figures of speech and other non-literal expressions frequently may block interpretation on all levels of reading. The non-literal language of the primer as well as the abstruse syntax of the college text may baffle the unwary reader equally (Newton, 1964, p. 65).

Despite the concern stated above with children's ability to understand the figurative language which they read, there is a paucity of research dealing with children's reading understanding of figurative language. In order to consider children's understanding of figurative language, specifically similes, the areas to be examined in this chapter are:

1. Reasons for using figurative language in oral and written discourse,
2. Quantity of figurative language in children's books,
3. Generalizing ability needed by the reader for interpreting figurative language,
4. Research studies of children's reading understanding of figurative language.

REASONS FOR USING FIGURATIVE LANGUAGE IN ORAL AND WRITTEN DISCOURSE

Figurative language has been used in both oral and written language for centuries.

Early Use of Figurative Language

Our language may be an imperfect instrument for describing and classifying the more intangible things of life. When attempting to describe an idea or quality that defies precise description people may say, "It's like" Originally such analogies were due to flashes of original insight into the nature of human behavior. Aristotle as cited by Watts (1944, p. 196), thought that a person who used metaphors was one who was aware of a resemblance in things previously taken to be dissimilar. In metaphors, this likeness is stated implicitly, whereas in similes or analogies the likeness is stated explicitly (Upton, 1961, p. 153).

Poets and mystics used parallels that were within the reader's or believer's experience to describe God or Life or Death. Watts (1944, p. 196) felt that primitive peoples relied on the graphically concrete use of metaphor to describe the indescribable. He also believed that this descriptive and enlightening purpose of metaphor had in large measure been forgotten and that to-day its value was pictorial and decorative.

Present Use of Figurative Language

To-day people still rely on the use of similes or metaphorical descriptions. This they do when no general word is readily available, or when there is a desire on the part of the speaker or writer to

appeal to the senses or emotions of the listener or reader by evoking a mental picture or feeling. Gill (1954, p. 297), as has been mentioned in Chapter I, believed that the use of figurative language by two groups of authors is increasing. The one group preferred the use of figurative language to the use of broad general terms and the other used figurative language to describe the indescribable, such as moon-walks. This use of metaphor to enlighten, as has been stated by Watts (1944), was relegated to the past.

Although there is some confusion as to why writers use figurative language to-day, the evidence of its presence and therefore the need on the part of the child reader to be able to interpret such language, whether its purpose is pictorial or enlightening, was of concern in this study.

QUANTITY OF FIGURATIVE LANGUAGE IN CHILDREN'S BOOKS

Russell (1970, p. 233) stated that children's literature should include "prose and poetry which stimulated curiosity, stretched the imagination, and awakened a sense of wonder" in the child. Children's books that did not do that, says Larrick (1960, p. 182), were "robbing imagination of its rightful place and declaring war on dreams." Thus it is felt that the use of figurative language in writing for children can enhance the curiosity and imagination of the child reader.

In order to assess the quantity of figurative language present in children's books, researchers have identified and quantitatively calculated the numbers of specific figures of speech. Hollingsed (1958) analyzed quantitatively eleven types of figures of speech in four basal reading series for grades four, five and six. He found an

increase in the quantity of figurative expressions from grade four to grade six. For the four grade five reading texts there were between 158 and 214 figurative expressions in each book and a mean of forty-six similes per book. Ninety per cent of the figures of speech were metaphor, simile, personification and metonymy with similes being second in frequency to metaphor.

Groesbeck (1961) analyzed two basal reading series and one series of social studies textbooks for grades three, four and five. She found that the number of figurative expressions in children's textbooks increased from grade three to grade five in both the reading and social studies books with the greatest increase in the social studies textbooks. Groesbeck did not calculate the frequency of specific figures of speech.

Table I summarized the findings of the studies of Hollingsed (1958) and Groesbeck (1961) with respect to the quantitative analyses of figurative language in children's textbooks.

When a comparison was made between the two studies with respect to the means per book of the figures of speech described, it was evident that the number of figurative expressions described by Groesbeck was more than twice those of Hollingsed. It is difficult to explain this discrepancy other than to consider the types of figurative expressions included by each researcher. Groesbeck described three classifications of figures of speech, onomatopoeia, expletives and antithesis, which Hollingsed did not include. As Groesbeck did not give the frequency of specific figures of speech, it can only be suggested that these three figurative expressions may have partially accounted for the discrepancy.

TABLE I
QUANTITATIVE ANALYSES OF FIGURATIVE
LANGUAGE IN CHILDREN'S TEXTBOOKS

Researcher	Year	Purpose	Sample	Findings				
				Gd.	Figurative Expressions		Similes	
					Total in 4 Books	Mean per Book	Total Similes in 4 Books	Mean per Book
Hollingsed	1958	Quantitative analysis of figurative language in basal readers for grades four, five and six	12 basal readers (4 reading series) 11 figures of speech	4	519	130	138	34
				5	703	176	184	46
				6	908	227	216	54
Groesbeck	1961	Quantitative analysis of figurative language in reading and social studies textbooks for grades three, four and five	8 reading textbooks (2 reading series) 3 social studies textbooks 7 figures of speech		Reading Texts		Social Studies Texts	
				Gd.	Total Fig. Exp. in 2 Books	Mean per Book	Total Fig. Exp. in 1 Book	
				3	805 (4 books)	201	180	
				4	845	422	415	
				5	1112	556	781	

These researchers limited their analysis to a quantitative description of figures of speech, except for Hollingsed's attempt to classify the figures of speech without defining the categories, as describing people, animals, objects, actions or conditions. He concluded that similes were used to describe people and objects and that the other figurative expressions described animals, actions and conditions. However, the categories did not appear to be mutually exclusive as evidenced by the following example which was in a grade four reader:

Forward and back between the wheels rocked the coach,
for all the world like a big rocking chair.

This simile was classified by Hollingsed (1958, p. 174) as a description of an object, but it appears to be also the description of the action of an object, namely, the rocking of the coach, which was not considered by Hollingsed.

From the results of these studies with regard to the quantity of figurative expressions, specifically similes, in books written for the upper elementary student, the need for further research into both the quantitative and qualitative aspects of similes in order to assess the meaning difficulties to the child reader seemed necessary. The findings considered pertinent to both the quantitative and qualitative analyses of the similes used in this study will be reported.

In order to interpret such figurative language as similes, the reader often needs a high degree of generalizing ability.

GENERALIZING ABILITY

The reading-thinking process involved in reading figurative

language, specifically similes, and its availability to the child reader will be presented.

Reading Figurative Language

The written language constitutes a system for the symbolization of abstract thinking (Lewis, 1968, p. 228). The author's thoughts are presented to the reader in printed symbols. After the reader perceives these symbols, he approaches in varying degrees a corresponding but not identical concept with the author (Werner and Kaplan, 1967, p. 169). The printed symbols have been compared to a computer programme which presents the brain with stimuli to be recognized and interpreted (Carroll, 1964, p. 41). Both Betts and Stauffer emphasized this interpretive aspect of reading. They believed that the reader was directed by the printed symbols to reconstruct both the author's thoughts and his attitudes behind the symbols (Stauffer, 1969, p. 15).

The reader, through the mental organization of symbolic schemes, can develop similar features in objects that are otherwise dissimilar. This process makes possible the formation of similes in abstract thinking (Werner and Kaplan, 1967, p. 19).

By extending Ogden and Richard's (1923) semantic triangle, Werner and Kaplan (1952, p. 87) built their model which showed the formation of verbal symbols and the relations that existed between the act of reference, symbol and referent. A verbal symbol, whether a word or sentence, was a sign referring to an object, situation, or a logical relationship (Werner and Kaplan, 1952, p. 86), and the act of reference consisted of thinking about a referent by means of a verbal symbol. The four relationships were shown in Figure 1. The

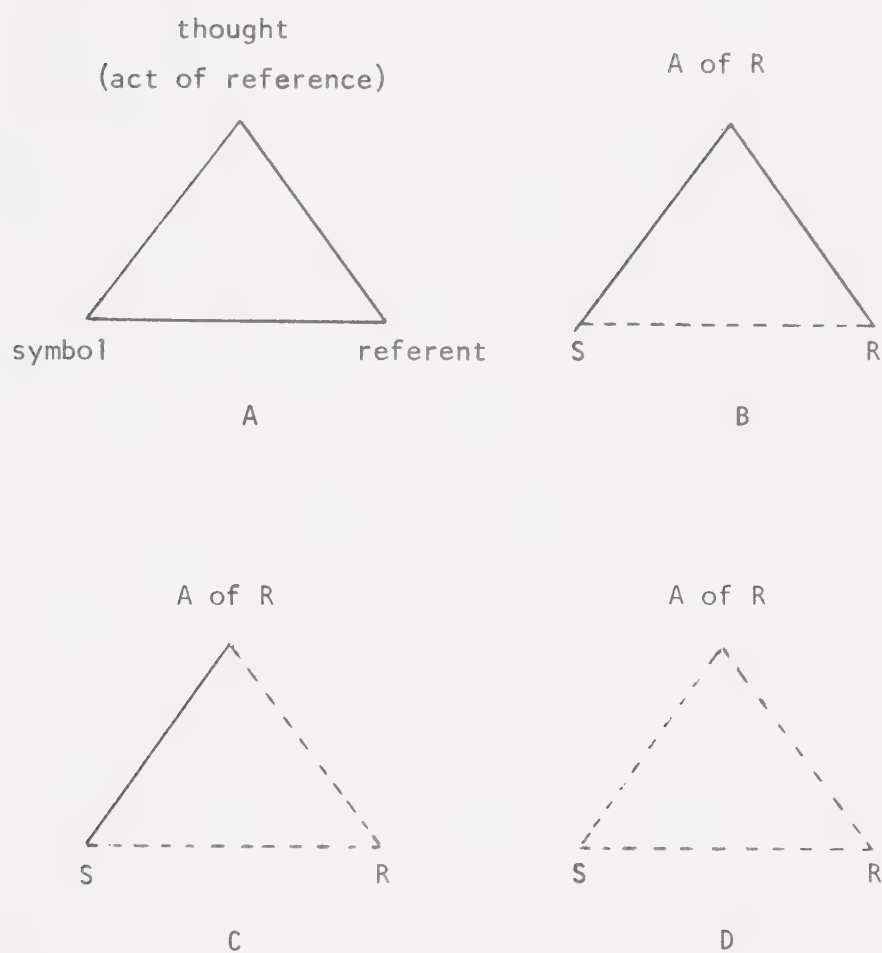


FIGURE 1

RELATIONSHIPS BETWEEN ACT OF REFERENCE,
SYMBOL AND REFERENT

direct, concrete connection between symbol, referent and the act of reference or thought, existing at early language stages was represented by the solid line in A. An example of this relationship is seen when a young child in the close physical proximity of a specific table gives it the label, "table." The indirect, non-concrete connection between symbol and referent existing in conventional speech was diagrammed by the dotted line in B. A reference may be made to a table without the presence of a specific table. The indirect, non-concrete act of reference such as involved in hypothetical thought was depicted in C. A prediction may be made about what constituted a table. It might be hypothesized that a table is an object upon which other objects are set. The indirect, metaphorical relationship between thought and symbol was represented in D. In this relationship a table might be likened to a four-legged plank. Thus the relationship between symbol, referent and the act of reference that exists in similes is the most abstract relationship and the interpretation of similes by the child reader requires a high degree of symbolic behavior.

The complex symbolic process involved in interpretation is likened to a problem in mathematics.

It consists in selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence of force for each. The mind is assailed as it were by every word in the paragraph. It must select, repress, soften, emphasize, correlate and organize, all under the influence of the right mental set or purpose or demand (Thorndike, 1917, p. 323).

The specific interpretive skills needed in reading figurative language require the reader to be well acquainted with the elements being compared, their characteristics and similarities, and then, as McKee

(1948, p. 81) stated, to do the thinking needed to come close to the author's intended meaning rather than to build a literal meaning or some other misunderstanding. In building the multiple-choice test used in this study to test children's reading understanding of similes, consideration was given to such possible misunderstandings by including various categories in the answer choices. One category indicated an awareness of a comparison being made but showed a lack of knowledge of the similarities between the elements compared. Another type of response showed an attempt to relate the elements of the simile but in a manner not intended by the author. This type of response may have indicated an attempt to interpret the simile literally. Two other responses showed a lack of awareness of the comparison made. In order to arrive at an understanding of a simile several requirements are demanded of the reader.

Reading a Simile

In reading a simile the reader must first recognize the word symbols and then construct meanings in the light of his past experiences and his ability to reason and generalize. For example, in the following passage the simile is, "The unspoken word blares like a trumpet now!"

... I had read history too closely, read of Caesar and the Roman Empire. I had not noticed that in the books there were white spaces between each line; the white spaces are there to remind you of the unspoken, the unwritten truth. When one only reads the words and does not read what is not written in the book, then one will never learn to understand

"The unspoken word blares like a trumpet now!" he whispered. "It blares like a trumpet" (Haugard, 1967, p. 188).

In order to interpret this simile several steps are necessary. First, the reader needs to recognize the words, "The unspoken word blares like a trumpet now!" It is then necessary that he realize that there is a comparison being made between "the unspoken word" and "a trumpet." The reader needs to know the characteristics of "a trumpet" and "the unspoken word" and from these decide which ones could be used in such a comparison of these elements. Then he decides what specific characteristic or characteristics are relevant to this simile in the light of his experience and in their contextual setting. Based on this decision, he determines the author's meaning.

The two terms used and defined by Walpole (1941, p. 155), when discussing metaphorical expressions, were tenor and vehicle. The tenor was defined as the general purport of the metaphor. In the fore-mentioned simile the tenor might be said to be: the unexpressed thoughts are obvious now. The vehicle was the symbol used as a medium for thought or feeling or action. In the above simile the vehicle is "a trumpet," with its easily audible sound being the characteristic pertinent to this simile.

In using similes the author concentrates on one or a few of the vehicle's characteristics but the other characteristics "hang around on the fringes of the reader's mind, and so one gets more of a kick from a figurative word or phrase than from a literal one" (Walpole, 1941, p. 156). However, there are several possibilities for misinterpretation which include the reader using characteristics of the vehicle that are inappropriate to the context or his attempt to interpret the simile only literally. Thus it is necessary for the reader to be alerted to the idea of reading similes at the abstract

or allegorical levels (Burton, 1960, p. 7), even though in attaining such a level he may pass through a stage of literal interpretation. Early (1965, p. 81) calls this ability self-conscious appreciation in which the reader finds delight in symbolism and the probe for meaning. To do this requires the total involvement of the reader including his senses, imagination, emotions and intellect. In this study, concern was shown for the range of interpretation of the similes read from literal to abstract and for the affective reactions by the students to these similes.

Children's Ability to Generalize

Writers in the field of language and concept development have differed in their evaluation of children's ability to generalize, internalize and thus understand and create figurative language.

Some writers believed that the young child perceived words as representing concrete ideas and did not generalize. Thus training in the interpretation of figurative language was fruitless. Feifel and Lorge (1950, p. 16) concluded from their qualitative analysis of children's vocabulary responses that younger children perceived words as concrete ideas and did not generalize. These findings were paralleled in Kruglov's (1953, p. 242) study of vocabulary responses using a multiple-choice format whose classification of answer choices was based on the Feifel and Lorge findings. Kruglov (1953) found that the younger children tended to choose more concrete definitions and the older ones more abstract definitions. Watts (1944, p. 244) believed that instruction in the understanding of figurative language for a child less than eleven years of age would not aid his understanding. Piaget

also reflected this view. He observed that the child went through stages in his conceptual development and that a child could not understand figurative language until he reached the stage of formal operations at about age ten (Piaget, 1928, p. 260).

Other writers said that children were able to generalize from early childhood. Russell (1956, p. 161) thought that the child by the age of three or four knew many concepts and that at that age he was discriminating, abstracting and generalizing about environmental data. Dewey (1910, p. 121) believed that the young child had the ability to generalize, even though he might not arrive at the same generalities as an older child or an adult. Piaget's theory has been criticized by Vygotsky (1962, p. 91) for overstressing the importance of stages in thinking without considering other influences on the child, including formalized instruction which might affect the development of his generalizing ability. The findings of studies by Croxton (1936, p. 634) on the ability of children to generalize in kindergarten through grade nine indicated that children in the upper primary grades and through junior high school were able to generalize. The researcher believed that any superiority by the junior high students over the intermediate ones was due to their greater experience rather than the superior ability to generalize.

The view that the young child was able to generalize and understand figurative expressions has been extended further by Trauger (1963, p. 182) who said that the young child was able to understand and use figurative language better than the older child. He thought that the older child of eleven or twelve years of age was beginning to develop a "metaphorical deafness" which was characterized by the use

of abstract words rather than the concrete ones such as are used in figurative expressions. Since the younger child used such concrete words Trauger reasoned that he understood figurative language better than the older child. An indication of how much children do use figurative language is given in the collection of children's rhymes, riddles and other figurative expressions collected by the Opies (1959). However, a young child's frequent use of such figurative language may be at the level of naïve identification. This is seen in the child's anthropomorphic perception which lacks distinction between animate and inanimate objects as used in the figurative expressions of personification, and in his use of onomatopoeic expressions which give a sound imitation of a characteristic of an object within its close physical proximity. This relationship was diagrammed in Figure 1-A. The young child may be able to interpret metaphors but his interpretation is literal, not metaphorical (Church, 1961, p. 25; Werner and Kaplan, 1952, p. 86) which may indicate the high degree of symbolic behavior necessary in the interpretation of metaphors.

A compromise was presented between the two groups of writers by Weiner and Kaplan (1952, p. 99). They believed that the development of understanding of figurative language was spiral and that when the child met with a new task, such as the reading interpretation of figurative language, he might partially recede to a more concrete level of functioning already abandoned in the achievement of familiar tasks. Thus children, starting to operate at the symbolic level needed to interpret figurative language, would regress to a process of greater immaturity than they exhibited under conditions not requiring such generalizing ability. In light of this theory it seems possible that

students in the upper elementary grades might show varying abilities to interpret figurative language which they read, specifically similes, depending on the level of development of their symbolic schemes and on their experience with such expressions. Some research studies have been conducted in an attempt to assess elementary school students' reading understanding of figurative language and the effects of instruction on interpretation and use of such expressions.

RESEARCH STUDIES OF CHILDREN'S READING UNDERSTANDING OF FIGURATIVE LANGUAGE

When authors use figurative language in their writing for the child reader, they have assumed that the child was able to gain meaning suitable to the context from these expressions. However, figurative expressions present the child reader with difficulties in arriving at the meaning intended by the writer. Ruddell's (1963, p. 23) review of Weekes' (1929) study of 412 grade six students' understanding of and choice of poetry concluded from the responses to true - false comprehension questions that figurative language tended to obscure the meaning of poems which they read. Knipp (1951) emphasized this by observing that children did not understand shifts in meaning especially in figurative language. She felt that there was a need for the development of new tests to measure understanding of semantic variations which was a consideration in the development of instruments to measure students' understanding of similes in this study.

Studies pertinent to this study will be critically reviewed in two areas, namely, those assessing children's understanding without experimentally controlled instruction and those assessing their

understanding with experimentally controlled instruction.

Children's Understanding of Figurative Language Without Experimentally Controlled Instruction

Even though there has been interest in children's understanding of figurative language among researchers for several years, not much more is known about their understanding to-day than was learned from the findings of early studies.

The purpose of Ayer's (1926) study, as outlined by Groesbeck (1961, p. 20), was to assess grades five and seven students' understanding of figurative expressions found in fifth grade history textbooks. She asked seventy-seven fifth grade students and sixty-four seventh grade students to paraphrase thirty-five paragraphs taken from fifth grade history texts. One of the paragraphs follows:

Daniel Webster said of Hamilton, "He smote the rock of national resources, and abundant streams of revenue burst forth. He touched the dead corpse of public credit and it sprang to life."

The fifth grade students' understanding was calculated to be 23 per cent correct paraphrasing and the seventh grade 32.7 per cent. Ayer found that the subjects interpreted words or phrases without reference to the rest of the paragraph. The students were distracted and as a result misinterpreted passages by gathering cues from cheerful, depressing or vivid language. The grade seven students would have an advantage in that the passages were selected from grade five texts. This may have augmented the grade seven scores in which case the fifth and seventh grade students' understanding might have been rated as almost the same percentage of correctness. Because of this possible discrepancy in Ayer's work the students in this study were

all selected from the same grade and received the same test which was based on reading material that had been recommended by educators and librarians as suitable for upper elementary students.

Looby (1939) attempted to determine the factors that affected children's understanding of figurative and non-figurative words and phrases that they read in literature. She used the reading selection, "Achilles, Famous Leader of the Greeks." The selection was divided into three parts. She taught the first part and questioned them on their reading interpretation of the other two parts. The students in the study were seventy-seven grade six students. She found that students derived meaning from the paragraph context but that students with inferior understanding for the passage had often derived incorrect meanings from the paragraph. Ayer had found that children did not use the paragraph context. Because of this, students in this study were asked in a free response setting to give the source for their meanings of the similes they read. Looby also found that unfamiliar wording obscured meaning for the student reader. For this reason an attempt to ascertain the syntax of the elements in the similes used in this study was made in order to determine the structure of the similes that caused the most and the least understanding difficulty. There was a high correlation between the children's comprehension of the literary passage and their reading and mental ability. These were considered as variables to be measured when assessing the grade five students' reading understanding of similes in this study. There was no attempt in either Ayer's or Looby's study to describe the characteristics of specific figurative expressions contained in the instruments or to determine which cause the students the greatest

difficulty in interpretation.

Flaum's (1945) study, as reviewed by Hollingsed (1958, p. 6), indicated that he determined the figures of speech present in specific reading materials, before attempting to ascertain the children's understanding of the figurative expressions. He examined the social studies texts in use in Crawford, a small Nebraska community, to determine what figures of speech they contained. In order to measure grades four, five and six children's understanding of the figurative language in the elementary history textbooks for grades four, five, and six, he selected the figurative expressions which he judged to be difficult. These numbered seventeen for grade four, fifty-six for grade five and sixty-four for grade six. From these expressions he constructed multiple-choice tests with five answer choices for each item. Thirty students received the grade four test; thirty-five the grade five test; thirty-one the grade six test. Test results showed that children's ability to interpret figures of speech increased from grade four to grade six. For example, children's accurate interpretation of similes in grade four was 42.2 per cent and in grade six was 70.1 per cent. Similes were more difficult than either metaphor or personification with the percentage of accurate identification being 59.5. In addition, he conducted interviews with ninety-four of the students concerning items incorrectly identified on the test. When the children were interviewed, the greatest difference between the test results and ability to verbalize was noted in the grade four sample where children who were low scorers on the test were able to verbalize in the interview. Based on his results, Flaum concluded that the children did not show a high degree of understanding of the figures of speech in the

tests. Flaum had attempted to examine children's understanding of specific figures of speech, but his instruments were subjective in both selection of items and the building of answer choices, as he had selected the items and built the answer choices without the assistance of other qualified people or through use of a pilot study. There were no criteria used to assure the quantitative representation of each figure of speech across the grades. Thus when Flaum concluded that the greatest discrepancy in understanding between the test and interview was evidenced by the grade four students, it may have been due to the test instrument rather than to the lack of understanding by the children. A further criticism of Flaum's study was his small sample of less than 100 pupils in three classes from three grades.

Hollingsed (1958), using the data from his quantitative analysis of the figurative expressions in basal readers, built instruments to assess children's understanding of figurative language. He selected the twenty-five sentences containing what he considered to be the more difficult figurative expressions from each of the basal readers for grades four, five and six of one reading series. Based on these sentences he built three multiple choice tests. These tests were administered to 100 students in each of grades four, five and six in the schools in Chicago Heights, Illinois. The results showed that children's ability to correctly identify the meaning of figurative language increased from grade four to grade six. The correct meaning of similes was the easiest to identify. Grade five students identified correctly the meaning of the similes in 56.80 per cent of their responses. A slight positive correlation coefficient was found between fifth and sixth grade pupils' test scores and their intelligence quotients,

whereas a slight negative one was found for the fourth grade pupils. From these results Hollingsed concluded that there was some degree of positive relationship between general scholastic ability and skill in the interpretation of figurative language.

Hollingsed increased his sample size over that of Flaum's but the test instruments still lacked reported validity as the researcher had used his subjective judgement in both the selection of test items and construction of the answer choices, and had made no attempt to measure their reliability and validity on a pilot study. The grade four test contained five different figures of speech; the grade five, seven; the grade six, four. Two criteria were used for building each of the four answer choices, namely, that the choices presented no additional meaning difficulty and that each incorrect choice was a potential misinterpretation of the figure of speech. On examination of the test instruments two possible meaning difficulties seen were the inclusion of other figures of speech as answer choices and the repetition in an answer choice of a phrase from the item such as "like the snow in spring" (Hollingsed, 1958, p. 123), which was repeated in two of the four choices. Hollingsed said that if a literal response were provided in items testing a student's reading understanding of metaphors there was a greater degree of accuracy than in those with no literal response. It was felt that in order to make such a conclusion it would have been necessary to include one literal answer response for each item.

The discrepancy between the correlation coefficients of the scores measuring understanding of figurative language and the intelligence quotients found for grade six students, in Looby's and

Hollingsed's study may have indicated the differences between what the mental ability test and the criterion instruments were measuring.

Looby's instruments seemed to measure more of the same skills than Hollingsed's and thus Looby's correlation coefficient was higher.

Using a personal interview Holmes (1959), as described by Groesbeck (1961, p. 18), attempted to ascertain grade five children's understanding of figurative expressions used in basal readers and geography textbooks. She concluded that grade five children had many misconceptions about the interpretations of figurative language of which they were relatively unaware.

From the summary of the studies of children's reading understanding as presented in Table II, it was seen that the children in these studies had varying degrees of success in interpreting the meanings of figurative language as it was presented, ranging from 23 per cent to more than 60 per cent. They were able to choose correct responses when given a choice of answers more easily than when they were asked to give the meaning of an item orally or in written form. This was a consideration in using a multiple-choice instrument in this study. The factors found which affect understanding of figurative language will be summarized after a consideration of the effects of instruction on children's understanding of figurative language.

Children's Understanding of Figurative Language With Experimentally Controlled Instruction

Concerned with children's understanding and the need for instruction in understanding figurative expressions which they read, a few researchers have attempted to measure the effects of instruction. Two studies by Simmons (1954) and Hollingsed (1958) will

TABLE II
SUMMARY OF SELECTED STUDIES OF CHILDREN'S READING
UNDERSTANDING OF FIGURATIVE LANGUAGE

Researcher	Year	Number of Students	Research Instrument	Quantitative Student Understanding	Correlation Coefficient with Selected Variables
Ayer	1926	Gd. 5 - 77 Gd. 7 - 64	Paraphrase 35 paragraphs	Gd. 5 - 23% Gd. 7 - 32.7%	
Looby	1939	Gd. 6 - 77	Tested on interpretation of reading selection, "Achilles, Famous Leader of the Greeks"		.866 between reading ability and comprehension of literary passage .802 between mental ability and comprehension of literary passage.
Flaum	1945	Gd. 4 - 30 Gd. 5 - 35 Gd. 6 - 41	Multiple-Choice Test Interview	Similes 59.5% Metaphors 75.5% Personification 66.2% Similes Gd. 4 - 42.2% Gd. 5 - 61.3% Gd. 6 - 70.1%	
Hollingsed	1958	Gd. 4 - 100 Gd. 5 - 100 Gd. 6 - 100	Multiple-Choice Test	Similes 59.02% Metaphors 57.10% Personification 53.71% Total by Grade Gd. 4 - 53.74% Gd. 5 - 56.88% Gd. 6 - 62.65% Similes Gd. 4 - 51.26% Gd. 5 - 56.80% Gd. 6 - 65.68%	Test scores and intelligence quotient Gd. 4 - -.19 Gd. 5 - +.44 Gd. 6 - +.48
Holmes	1959	Gd. 5 - 26	Interview	33% "do not know" responses 47% verbalized misconceptions	

be described briefly. Studies by Groesbeck (1961) and Horne (1966) will be critically reviewed in more detail.

The purpose of Simmons' (1954) study, as outlined by Hollingsed (1958, p. 8), was to determine the effect of instruction and practice given grade six students in the interpretation of metaphors. Simmons found that the instruction and practice provided had no effect on a pupil's ability to interpret metaphors in the tests. However, this result may have been due to the limited number of lessons and practice exercises which consisted of two lessons and four practice exercises over a ten week period. Simmons believed that the lack of understanding was due to the pupils' lack of background understanding for specific metaphors and to the involved sentence structure.

Hollingsed (1958) included in his study an examination of the instruction provided in figurative language in reading textbooks, teachers' manuals, and children's workbooks. Manuals for three of the four series examined contained no lessons. Practice exercises in the manuals ranged from two to thirty-nine. In the workbooks only one series provided lessons but all provided some practice exercises, mostly on metaphor. He concluded that more instructional materials were needed to aid teacher and student in interpretation of figurative language. From Simmons' and Hollingsed's studies it seems that the instructional materials were limited and that limited instruction did not aid the understanding of figurative language for children in grade six. However it seemed necessary to know more about the figurative language used by authors and in turn children's understanding of such language before suitable instructional materials might be developed.

Groesbeck (1961) attempted to measure the transference of skills taught in interpreting figurative language to grades three, four and five students. An experimental group of sixty students and a control group of sixty students made up the student sample. They were given a multiple-choice pre-test containing forty items based on figurative expressions selected from the basal readers and social studies texts for grades three, four and five. The experimental group received instruction for five weeks which included ten - twenty minute lessons. The multiple-choice post-test was administered four weeks after the completion of the instruction. Groesbeck found that the pupils who received training showed highly significant gains over the control group on the post-test scores. Reading and vocabulary skills were found to be no greater predictors of success in understanding figurative language than was the intelligence quotient. There was no difference between the boys and girls in their understanding of figurative language. Groesbeck concluded that figurative concepts must be taught. Simmons had found no improvement in understanding with instruction. However, as has been stated, Groesbeck found the opposite result. This seemed to be due to Groesbeck's more concentrated instructional programme. On examination of the answer choices used by her in the multiple-choice instruments no specific structure was given to the three answer choices other than one being correct and the other two being foils. Some of the answer choices contributed to the students' meaning difficulties. For example, an item from the grade four test is quoted below.

Jacks' worries had vanished like the air.

- a. His troubles had blown away.

- b. He no longer worried.
- c. His worries were everywhere like the air.

The additional meaning difficulties included both answer choice a. which is a figurative expression, and choice c. which repeated "like the air" from the stem which may have distracted the students. In building the multiple-choice responses for this study, attempts were made to avoid such answer responses.

Horne (1966) was interested in grade six pupils' understanding and use of figurative language. She built a multiple-choice test using three answer choices for each item. The choices were based on grades five, six and seven children's actual meaning responses when asked to write the meaning of the figurative expressions. This test was administered to an experimental group of seventy-three grade six students and to a control group of seventy-two students. She also took the samples of their creative writing based on the film, "The Hunter and The Forest" and quantitatively calculated the figurative language used. The experimental group received instruction for twenty-four lessons of one hour each over six months. These lessons were devised by the researcher as work sessions based on children's literature. At the conclusion of these lessons the multiple-choice post-test was administered. The same film as used for the initial writing sample was shown as stimulus for creative writing. The experimental group scored significantly higher in both frequency of use and understanding, but the scores in reading and vocabulary did not differ significantly between the experimental and control groups. High intelligence quotients tended to accompany the understanding of but not the use of figures of speech.

Age, sex and socio-economic status had no significant effects. Horne concluded that sixth grade pupils profited from instruction in understanding of figurative language and that experience with such expressions is more important than age in production of figures of speech. Horne's multiple choice test was constructed from the children's own responses but no attempt was made to classify the two types of foils.

The studies of instruction in interpreting figurative language by Groesbeck (1961) and Horne (1966) were summarized in Table III. The Simmons' (1954) study was not included in the table as sufficient data was not available. From the results of these studies it was seen that instruction for children in grades four, five and six improved understanding and use of figurative language when the instruction included several lessons that were offered at least once a week. The ability of this age group to generalize and profit from such instruction was in disagreement with such writers as Watts (1944). However, instructional programmes in order to be suitably constructed need to be built on research findings with regard to both the quantitative and qualitative aspects of each type of figurative expression found in books written for the child reader and in turn the child's reading understanding of each of them.

Factors Affecting Children's Understanding of Figurative Language

From the studies reviewed, several factors within the written material and within the child were found to affect understanding of figurative language. Some factors in the written material were noticed which affect the children's understanding. The syntax of the figure of speech and the paragraph context may distort inter-

TABLE III
SUMMARY OF SELECTED STUDIES OF INSTRUCTION IN
INTERPRETATION OF FIGURATIVE LANGUAGE
IN GRADES FOUR, FIVE AND SIX

Researcher	Year	Number of Students	Research Instrument	Findings
Groesbeck	1961	Control Gd. 3 - 20 ¹ Gd. 4 - 20 Gd. 5 - 20 Total - 60 Experimental Gd. 3 - 20 Gd. 4 - 20 Gd. 5 - 20 Total - 60	Multiple-Choice Test (Pre- and post-tests) 10 lessons 20 minutes each Five weeks	Highly significant (.01) gains by experimental group over control group on post- test scores
Horne	1966	Control Gd. 6 - 72 Experimental Gd. 6 - 73	Multiple-Choice Test (Pre- and post-tests) Writing sample based on film, "The Hunter and the Forest" 24 lessons 1 hour each Six months	Experimental group scored significantly higher (.01 level) in frequency of use and understanding of figures of speech

pretation and lead to misunderstanding. Vivid or emotional words in both the context and the figure of speech distorted the children's interpretations. Children were unaware of their faulty interpretations.

Researchers found a relationship between several factors within the child which were related to his understanding of figurative language. A positive relationship was seen between the child's understanding of figurative language and his reading ability (Looby, 1939; Groesbeck, 1961); mental ability (Looby, 1939; Hollingsed, 1958; Grosebeck, 1961; Horne, 1966); age (Flaum, 1945). No significant relationship was found between age and understanding of figurative expressions by Horne (1966).

Another factor considered important was the child's experience with figurative language and background gained through personal experiences such as reading (Watts, 1944; Huus, 1963; Simmons, 1954; Horne, 1966). No significant relationship was observed between the understanding of figurative language and either socio-economic status (Horne, 1966) or sex (Groesbeck, 1961; Horne, 1966). The variables included in this study were those considered pertinent from the review of these studies. These variables were mental ability, reading ability, chronological age, sex and background experiences.

SUMMARY

Figurative language has been used in oral and written communication for centuries. To-day its use by writers may be on the increase. Originally, figurative language was used by mystics and poets to enlighten and describe. However, there was no consensus of

opinion as to the author's purpose in using such language to-day.

Figurative expressions are present and increase in number in books written for the upper elementary grade students with similes being one of the most frequent expressions. The interpretation and appreciation of such language involves the reader's imagination, emotions, senses and intellect.

As the relationship among the elements in similes was considered to be abstract, students need a high level of generalizing ability to be able to interpret the similes which they read. In addition, students require a background knowledge of the elements involved in the simile.

Research studies showed that students' understanding of figurative expressions was related to their mental ability, reading ability, age and background experiences but not to their sex or socio-economic status. Within the figurative expressions themselves, the syntax of the figures of speech and vivid or emotional words were found to adversely affect the student's understanding.

In instruments using a multiple-choice format, possible difficulties in the phrasing of the answer choices were seen which might have misled the student's interpretation of answer responses.

Instruction for children in grades four, five and six increased their understanding and use of figurative language when it was offered frequently and consistently over several weeks. However, it was felt each figure of speech might present unique meaning difficulties to the child who read them and that therefore it was first necessary to describe in a quantitative and qualitative way the characteristics of each type of figure of speech found in books written for the child reader. Secondly, it was necessary to assess children's understanding

of each of these figures of speech in order to devise instructional programmes that were built on the findings of such studies.

CHAPTER III

CONSTRUCTION OF RESEARCH INSTRUMENTS

Three instruments were devised by the researcher for this study. This chapter will describe the construction of the Similes Test, the Interview and Questionnaire.

SIMILES TEST

A multiple-choice testing instrument was constructed to measure children's understanding of similes found in literature books suitable for grades four, five and six students. The construction of a valid test depends upon the fidelity with which it measures what it purports to measure (Garrett, 1958, p. 354). To build a valid Similes Test consideration was given to the various kinds of validity. Although face validity, which depends on the subjective examination of the instrument as to whether it appears to measure what it professes to measure, is considered by Fox (1969, p. 368) to be the weakest kind of validity, it is nevertheless claimed for this instrument.

The following components of content validity, which depends on the researcher's rational and empirical basis for the selection of the actual test content, as suggested by Fox (1969, p. 370), were examined in the construction of the Similes Test: consideration of whether the content of the instrument is representative of all possible content; inspection of related researchers' instruments with respect to their format and to their content; consideration of studies of a free-

response nature by the researcher or other researchers in order to defend the inclusion and structure of specific items.

In the construction of the Similes Test the following aspects which incorporated the three components of content validity mentioned above were considered: source of the similes for the Similes Test; development of the five choice classification for the test items; actual construction of the test instrument. The third aspect of content validity, namely, the use of free-responses to defend the structure of test items was one reason for including the Interview in this study. A description follows of the topics outlined above.

Source of the Similes

The similes used in the test were selected from those used by Lockhart¹ in her study. In selecting the similes used in her study she first selected, through a stratified random sample, twenty children's literature books from 563 literature books that were on nine booklists recommended as suitable for grades four, five and six by the school of Library Science, University of Alberta.

A listing of the seven booklists compiled in the United States and the two compiled in Canada is given in Table IV.

From these nine lists 563 books were selected that appeared on at least three lists or on both Canadian lists. This was done in order to exclude the books which appeared on only one list as some of the lists were limited in number and method of book selection. In

¹Margaret Lockhart, "An Investigation of Similes Found in Selected Fiction Written for Children in Grades Four, Five and Six" (Master's thesis in progress, University of Alberta, 1971).

TABLE IV
NINE BOOKLISTS USED IN THE SELECTION OF
TWENTY CHILDREN'S LITERATURE BOOKS

Booklists	Country of Compilation
Best Books for Children Books for Elementary School Libraries Children's Books too Good to Miss Children's Catalogue Let's Read Together Notable Children's Books The Elementary School Library Collection	United States
Basic Booklist for Canadian Schools Books for Boys and Girls	Canada

An Annotated Bibliography of these lists is in Appendix A.

order to ensure representation of those books which appeared the most frequently and representation from books on Canadian and American lists, frequency calculations were made of the number of books which appeared on both Canadian lists; on all seven American lists; on all nine lists; other distribution patterns. In selecting the twenty literature books the random sample was stratified in order to preserve the same proportion of representation as in the 563 books. Table V outlined this selection of the twenty children's literature books.

TABLE V
SELECTION OF TWENTY CHILDREN'S
LITERATURE BOOKS

Books Which Occurred on:	No. of Books Out of 563:	Proportion Out of 20:
2 Canadian lists and less than 7 American lists	87	3 [*]
7 American lists and less than 2 Canadian lists	10	1/3 ^{**}
All 9 lists	17	1
Other distribution patterns	449	16
Total	563	20

$$* \frac{87}{563} \times 20 = 3$$

^{**} eliminated

Bibliographical information for the twenty books is in Appendix B.

It was decided by Lockhart (1971) to eliminate the one-third of a book in the second category as to include it as one book would have given the category disproportionate representation and to retain it as one-third of a book would necessitate the decision as to which third of the book would be used. As the distribution of similes within books varies from one part of the book to another, as seen by Lockhart (1971), the decision to retain the first third of a book might have meant the inclusion of no similes and the exclusion of all the similes which were in the middle or last part of the book. For these reasons

this portion of a book was eliminated.

Lockhart and two judges, who were both experienced elementary school teachers and graduate students in elementary education in reading, agreed that 770 similes from the twenty books fit Lockhart's definition of simile which was the same definition as used in this study.

Fifty-two similes from the 770 were selected by this researcher using a table of random numbers (Wallis and Roberts, 1963) entering at row 113, columns three, four and five and reading down the columns. Fifty of these similes were to be used in the construction of the test items while the other two similes were to be used as samples to be included in the test instruction. Seven random numbers and hence the similes they represented were rejected for various reasons. Two random numbers (767, 170) were rejected because they had appeared earlier in the selection and five similes were rejected for the following reasons. One of these similes was rejected prior to the pilot study because Lockhart and her two judges on re-examining it felt that it did not fit her definition. The simile in question is given below underlined in passage context.

Jackie had focused her eyes so closely on the praying mantis that it seemed to grow until it filled the room, an illusion that was assisted by the long shadows it cast in the flickering light. Each detail was thrown into high relief: the four legs, the clawlike arms, and the big pincers in place of hands (Stevenson, 1965, p. 40).

Three similes, after they had been compared to the similes already selected, were rejected because the vehicles and commonalities in each were already represented in other similes. This would have made the meaning of three pairs of items in the test similar. One of these is quoted below.

The lion's growl had deepened into a rumble. It conveyed to Jackie an impression of brutal strength. He stopped near their hideout and began to grunt like a locomotive climbing a steep incline (Haugaard, 1967, p. 129).

The item similar to this one would have been Sample A in the directions of the Similes Test (Appendix D). A fifth simile was rejected because inclusion of over a page of context from the book was necessary in order for the reader to have gained meaning from the simile. Thus a total of five similes or passages were rejected before the fifty-two similes were selected.

Table VI lists the twenty books selected, and the number of similes identified in each book from the total 770 similes, as well as the fifty-two similes used in the pilot study and the thirty-two used in the Similes Test. As the fifty-two similes were randomly selected it was felt that the selection would be representative of the number of similes in the books. The total similes in the three books Gone-Away Lake, The Bushbabies, and The Eagle of the Ninth represented about 60 per cent of the 770 similes. This proportion was the same for the pilot study test and the final Similes Test.

The seven books which were not represented in the fifty-two similes contained a total of forty-two similes or approximately 5 per cent of the 770 similes. This percentage of the fifty-two similes represented less than three similes or a portion of a simile from each of the seven books. Thus these books were not represented in the random selection of similes used in the pilot study. The two similes used in the samples for the pilot study and the Similes Test were from the two books Heidi and The Bushbabies.

TABLE VI
SELECTION OF SIMILES USED
IN SIMILES TEST

Book Titles	Total Number of Similes	Number in Pilot Study	Number in Final <u>Similes Test</u>
The Ugly Duckling	1	-	-
Little Witch	17	1	1
Eagle Feather	11	-	-
The Return of the Twelves	50	2	1
The Bears on Hemlock Mountain	2	-	-
Half Magic	10	-	-
Gone-Away Lake	109	8	4
Ellen and the Gang	4	2	1
Impunity Jane	7	1	0
The Little Fishes	32	3	2
The Red Balloon	2	-	-
Little Pear and the Rabbits	9	-	-
A Pony Called Lightning	27	2	2
Amahl and the Night Visitors	5	-	-
The House at Pooh Corner	2	-	-
13 Ghostly Yarns	52	2	0
Nkwala	55	3	2
Heidi	36	2 [*]	2 [*]
The Bushbabies	165	12 [*]	8 [*]
The Eagle of the Ninth	174	14	9
Total Number of Similes	770	52	32

* One of these similes was used as a sample in the Directions for Administration of the Similes Test.

The Development of the Five Choice Classification for the Test Items

Consideration was given to the test format. The use of a multiple-choice format was determined by several concerns. Such a format paralleled its use in other studies on children's understanding of figurative language which might allow for objective comparisons between the results of this study and the other studies (Hollingsed, 1958; Groesbeck, 1961; Horne, 1966). Also considered were the findings that children could more easily select correct responses in objective tests, such as a multiple-choice test, than they could express themselves either orally or in written form (Knipp, 1951; Orton, 1966). Researchers considered the multiple-choice format as objective because it allowed the researcher to systematically probe the nature of the subjects' responses, whether they were correct or other than correct. In addition, it was a versatile instrument as evidenced by its use in varied subject areas (Karmel, 1970, p. 402).

The specific classification of the choices to be used in each item of the Similes Test was based on the results of a pilot study by Lockhart in April, 1969. This pilot study was undertaken in an elementary school from a suburban community bordering on the northern boundary of the large urban centre of Edmonton, Alberta. The twenty-nine grade six students were asked to read six similes and to give the meaning that they derived from them in free written responses. From the analysis and classification of their responses by this researcher it was found that their responses fitted nine categories. The five categories used in the Similes Test were the first of the nine categories described below. One of the six similes quoted in context follows:

We must have reaped every last strawberry before she stood up, put her arm in mine and escorted me down the mountain. I certainly was not escorting her. Her wiry little arms were like crayfish pinchers. I couldn't have gotten away if I had tried. So I walked and listened.

A correct response for the above simile was: "She grabbed his arm so tightly that he couldn't get away." The student had recognized the words; realized that a comparison was being made; identified a pertinent commonality between the subject of the simile and the vehicle, namely, "grabbing tightly."

The next three categories of responses indicated that, although the student attempted to interpret the whole simile or part of it by using only the subject or vehicle, he had gained only partial meaning for the simile.

An inappropriate commonality response for the above simile was: "Her skinny arms were rough." The student had incorrectly identified the commonality between the subject of the simile and the vehicle. This was a possible commonality, but not the one that appeared to be conveyed by the author of this passage.

A confused relationship response was: "Her arms were part of a crayfish." The student had realized that a comparison was being made but he had misinterpreted the relationship between the subject of the simile and the vehicle.

A paraphrasing response was: "some small arms." The student had not realized that a comparison was being made between the subject of the simile and the vehicle and, in this example, he had restated only part of the subject. Responses were classified as paraphrasing when either the subject or vehicle or parts of either were restated without elucidating the meaning of the simile.

An incorrect response was: "A little girl taking her big friend on a journey." The student had not recognized any comparison in the simile and had introduced both a new subject and a new vehicle for the simile. This was not done in any of the other response categories. Responses were classified as incorrect when a new subject or vehicle or both were introduced which were not appropriate to the context.

A faulty vocabulary response: As there were no responses fitting this classification for the above simile an example was not given. Responses were classified as faulty vocabulary when the student recognized the words in the simile but lacked meaning suitable to the context for one or more of the words which in turn contributed to his misinterpretation of the simile.

An omission response: The student made no attempt to give a written response.

A repetition response was: "Her little arms were like crayfish pinchers." The student had repeated the simile except for the omission of the word "wiry." Responses were classified as repetition responses when the simile was restated verbatim in whole or in part.

An emotional response: "scared and frightened." The student had reacted emotionally to the simile and had given no stated meaning for the simile.

The frequency of each classification of response, when the twenty-nine grade six students were asked to write the meaning they derived from six similes, is summarized in Table VII.

TABLE VII
CLASSIFICATION AND FREQUENCY DISTRIBUTION OF
WRITTEN RESPONSES TO SIX SIMILES BY
TWENTY-NINE GRADE SIX STUDENTS

Classification of Response		Number of Responses	Percentage of Total
Correct		71	40.8
Partial Meaning	Inappropriate Commonality	35	20.15
	Confused Relationship	7	4.0
	Paraphrasing	15	8.6
	Subject or part Vehicle or part	3	1.7
Incorrect		31	17.9
Faulty Vocabulary		2	1.15
Omission		3	1.7
Repetition		2	1.15
Emotional		5	2.85
Total		174	100.00

The categories listed as faulty vocabulary, omission, repetition and emotional were eliminated because of their infrequency, and the reading load to the student if he had nine choices to read. It was also felt that, if students were given several choices that were more suitable for the context than those eliminated, they would choose one of them over a meaning for the simile based on faulty vocabulary, a blank space, a repeated simile, or an emotional response. Thus there was less reason to include these four classifications than the five categories retained in each multiple-choice item which were correct response, wrong commonality response, confused relationship response, paraphrasing response, and incorrect response.

The Construction and Ordering of Test Items

The fifty-two similes in context were placed individually on index cards. Context for the simile was considered to be paragraph context unless it was decided unanimously by the researcher and three graduate students in reading, who were all experienced teachers of upper elementary students, that inclusion of the total paragraph was not necessary to the understanding of the simile or that inclusion of more than the one paragraph was necessary if a reference to the subject, vehicle or commonality was presented in the preceding or following paragraph. The context in which the similes were presented may have limited the students' understanding of the similes. This was acknowledged in Chapter I as a limitation of the study. The three graduate students mentioned above assisted the researcher in building the five responses for each item. After the researcher had described the five classifications with examples, each of the four

graduate students, including the researcher, worked independently and created possible answer choices for the fifty-two items. The actual answer choices were selected from these choices by the researcher. Care was given to exclude any words from the stem in the choices that might distract the student into selecting a type of response that he might not otherwise make. As one way of avoiding any additional meaning difficulties, figures of speech were excluded in the answer choices. In order to prevent using words whose meaning would be unknown to grade five students, vocabulary of the responses in each simile item was screened for difficulty using The Teacher's Word Book of 30,000 Words (Thorndike and Lorge, 1959) as this was the only reading vocabulary list available. Ninety-five per cent of the words used were considered to be at the grade four level or below using column G which is considered by the compilers of the book to be a summary of their four major lists based on the frequency of reading vocabulary (Thorndike and Lorge, 1959, X). However, the list has its limitations in that it was first compiled in the early part of this century and no apparent major revisions have been made since the 1940's. As a result, words such as, "lioness," and "uphill" are considered to be within a high school student's reading vocabulary only and thus had to be rejected in this study. On the other hand, grade five students would understand the use of "called" to mean shouted but some would have difficulty interpreting its use in, "He called the moment up now." Thus this list offered little control over the concepts involved in the test answer choices.

A set of teachers' and students' directions were prepared to accompany the administration of the test used in the pilot study

(Appendix C). These were unchanged in the Similes Test used in this study except for the addition of the phrase, "as they are used in the passage." Two examples, selected from the fifty-two items because of their ease of understanding, as decided by the researcher, were included on the page of students' directions. This was done to acquaint the students with what was expected of them in the way of selecting a response and of marking the machine scored answer sheets.

The items included in the final Similes Test were based on the results of the pilot study described in Chapter IV.

The methods described in the construction of the Similes Test were used in order to achieve the content validity of the instrument. In order to assess construction, congruent, and predictive validity it would have been necessary to use an additional criterion measure other than the Similes Test. Since another such measure was not available to the researcher the validity of the Similes Test was limited to the face and content validity of the test. The reliability of the Similes Test in the study was based on the Kuder-Richardson formula 20, which was a measure of the internal consistency of test material, and was reported in Chapter IV.

INTERVIEW AND QUESTIONNAIRE

The questioning method in which a question is asked of the student in either verbal or written form was used in this study in the Interview and Questionnaire. The questioning method as it pertains to these two instruments, and then the construction of the items used in the Interview and Questionnaire will be described.

Questioning Method

The questioning method was considered by Fox (1969, p. 525) to be one of the best techniques for gaining information from respondents. He outlined several basic elements to the questioning method (Fox, 1969, pp. 526-28) which included the context of questioning; the content of questioning; the question; provision for answering; researcher-respondent interaction; techniques for questioning. These aspects of the questioning method were considered in the design of the Interview and Questionnaire used in this study.

Because of the researcher's concern about the context of questioning in both the Interview and Questionnaire, the purpose of the instrument was explained and reassurance was given to the students that the information received was confidential.

The content included was based on the researcher's reading of related literature, discussion with educators and the researcher's own background knowledge. Specific reference will be made to these areas in the description of the Interview and Questionnaire in the next two sections.

In order to insure that the questions were grammatically consistent and clearly and specifically stated without making assumptions or suggestions, the questions used in the Questionnaire and Interview were critically read for each of these aspects by six graduate students in Elementary Education, who were all experienced elementary school teachers.

The form of the researcher-respondent interaction used in the Interview was personal, while in the Questionnaire, it was both personal in that the purpose and use of the instrument were orally described to

the students, and impersonal in that students read and recorded their responses on the printed Questionnaire.

The two techniques of questioning used in this study were the interview and questionnaire. The Interview was structured in that the researcher's directions and questions were recorded in order to ensure standardization of the interviewing but it was unstructured in that the students responded freely to the questions posed. The Questionnaire was structured using a check list with a free option format. The construction of the Interview and then the Questionnaire are described.

The Interview

In addition to the use of a multiple-choice instrument to assess children's understanding of specific similes it was decided to use a subjective test in the form of an interview in order to ascertain if children do have difficulty expressing themselves orally (Orton, 1966) and if the types of responses would be the same as the classifications on the multiple-choice test.

In the pilot study the one student interviewed responded to the first twenty-four of the fifty similes used in the multiple-choice test which took one and a half hours (Appendix C). The student was asked first to read the simile silently to herself and then to give the meaning she derived from reading it. She was also asked what feelings the similes elicited in her and to give the meaning of various words that seemed to be causing her difficulty in interpreting the simile.

Based on the pilot study it was decided to include in the final study three questions for each simile and for certain similes

a fourth question was posed.

First, subjects were asked the meaning of the simile. Then in question two, through the introspective technique an attempt was made to determine whether the source of meaning for the student was the context of the simile or his or her experiential background.

Since it was felt that similes are used by writers to produce an affective reaction in the reader as well as a pictorial image, the subjects were asked in question three what feelings the simile elicited in them.

The fourth question, which was posed for four of the similes, asked the students to give the meaning of certain words or phrases that had presented vocabulary difficulties to the student in the pilot study. This was done in order to ascertain whether the similes contained words which presented meaning difficulties to the student readers.

The students were interviewed individually in rooms provided by the principal of each school. Both the researcher and an experienced teacher, a graduate student in elementary education, conducted interviews at the same time, using two separate rooms. In order to standardize the procedure in the interview, the introduction and questions were pre-recorded by the researcher and a copy of this tape was used by both interviewers. A transcription of the tape is included in Appendix E. The introduction included in the taped interview consisted of introducing the interviewer; discussing the use of similes in our daily conversations; requesting the students to use comparisons to describe the object in front of them (a wire sculpture of a person walking on a fence, a Ukrainian easter egg or a bird of paradise flower); discussing the procedure to be used, namely, the use of two tape recorders. The inter-

viewer operated the two tape recorders - one to give the students directions and the other to record the student's responses. The interviewer gave no verbal cues during the interview. These taped interviews were transcribed by the researcher in consultation with the other interviewer.

The number of similes used in the Interview was restricted to ten because of the time required for an interview as discovered in the pilot study. The time for each of the interviews in the final study ranged from twenty to forty minutes depending on the student's verbiage.

The Questionnaire

Since studies indicated that an important factor in children's understanding of similes was the children's background gained through personal and vicarious experiences such as reading (Huus, 1964; Horne, 1966), the Questionnaire was devised in an attempt to assess pertinent background experiences.

The researcher was interested in assessing the student's interests with respect to the following areas:

1. personal experiences
2. vicarious experiences other than reading activities
3. reading experiences
4. availability of books
5. preferential use of leisure time.

Personal experiences were considered to be those gained through club membership, sports participation, travel, and number and location of residences. Vicarious experiences, other than reading, were viewing

movies and television programmes, and listening to records and the radio. The inclusion of these areas was based on "children's logs of their out-of-school activities" for a week in which they indicated that these activities were the most popular, other than work and reading, in terms of time spent (McCullough, 1957). Huus (1964, p. 126) also pointed out in reviewing McAulay's study of children's interests that teachers underestimate the interest and information that children gain from television, radio, movies and travel. These areas were the ones included in the Questionnaire in questions one to five, inclusive (Appendix F).

Reading experiences included early and present ones. The child's present interest in reading may be affected by being read to or being able to read prior to school attendance and Karlin, in building his Individual Reading Interest Inventory (1964), included questions related to these two areas. In the Questionnaire they were phrased as questions eleven and twelve. Present reading of books and newspapers was assessed in questions six and seven.

Since the availability of materials, specifically books, was considered an important factor influencing children's interest in reading (Huus, 1964, p. 127), questions eight, nine, and ten were included in the Questionnaire. Gough, and later Elley, had considered this as one of their questions in assessing socio-economic status using the Home Index Scale (1961).

Question thirteen was posed in order to assess the students' preferential use of their spare time.

The actual categories used in the questions were based on McCullough's findings (1957); Elley's revision of the Gough Home Index

Scale (1961); Karlin's Individual Reading Interest Inventory (1964); questioning several adults and children. The six adults who assisted were pursuing graduate studies in reading at the University of Alberta and had experience teaching upper elementary students. They checked the clarity, specificity, and grammatical consistency of the test. The four grade five children who were friends' children suggested changes in the categories excluded or included.

The children completed the Questionnaire in their spare time at school on one of the testing days.

The researcher has relied on the content validity of the Questionnaire. To obtain a statistical measure of its reliability it would have been necessary to use a longer or more complex instrument which would have allowed the researcher to build into it items that sought the same information through different questions or formats (Fox, 1969, p. 568).

SUMMARY

Three research instruments were devised by the researcher for this study. Two were constructed to appraise grade five students' reading understanding of similes. The Similes Test was composed of thirty multiple-choice items which included five classifications of answer responses. The Interview permitted the students to give free responses to questions posed on their reading understanding of ten of the similes used in the Similes Test. A third instrument, the Questionnaire, was designed in an attempt to assess some of the background experiences that might have contributed to the students' understanding of similes.

CHAPTER IV

THE EXPERIMENTAL DESIGN

This chapter will provide a description of the student sample; the testing instruments, their administration and scoring; the pilot study; the treatment of the data; the reliability of the classification of responses to the Interview.

THE STUDENT SAMPLE

The total student population, from which the test population was selected, consisted of all the grade five classes in the County of Strathcona Public School system. The County of Strathcona, with a population of 25,000, is situated at the eastern extremity of the city of Edmonton and has a student population of 7,754. The total test population consisted of 197 students and the test sample of ninety-three students, of whom seventy-four received the Similes Test and nineteen were interviewed. The seventy-four students were from three classrooms, one from each of the three schools which had been assigned to the researcher by the school administrators. These students were members of heterogenous classes, all students having been randomly placed in their classes by the principal at the commencement of the school year in September, 1970. The nineteen grade five students who were interviewed were from two of the three schools, as the third school had only one grade five class whose students had received the Similes Test. The students interviewed were members

of two classes. One class was a heterogenous grade five class and the other was a combined grade four and five class with the only criteria for student placement being satisfactory school behavior.

The three schools used in the study were from different areas of the County of Strathcona. The students from the school in Sherwood Park, a suburban community, lived in Sherwood Park or on acreages bordering on Sherwood Park. The majority of the students from the two other schools lived on acreages. A few lived on farms or in a village that was half a mile away from one of the schools. These comments with regard to the school areas are presented as a description of the areas and were not considered in this study as a factor in the analyses of the students' reading understanding of similes.

The basal reading series used by the teachers of the students in the study was The Canadian Ginn Basic Readers (1963). The specific text was Beyond the Horizon. On examination of the teacher's manual for this book it was found that there were five lessons on the understanding of figurative language. Three of these lessons included understanding of similes. None of the teachers indicated that they had taught any lessons on the interpretation of figurative language.

The distribution of the sample by sex, by their total, verbal and non-verbal scores on the Lorge-Thorndike Test, by their raw scores obtained on STEP and by their chronological ages in months was outlined in Table VIII. The range of scores for each grouping was decided by placing twenty-five per cent of the seventy-four students in the low range; fifty per cent in the middle; twenty-five per cent in the top.

Several points are observed with respect to each group. For

the group receiving the Similes Test there was a slightly greater percentage of girls in the middle and lower ranges of total scores on the Lorge-Thorndike Test, which may be accounted for by the greater percentage of girls in the lower and middle ranges of scores on the non-verbal battery. However, on the verbal battery there was a greater percentage of boys in the lowest group which may be related to the finding that there was a greater percentage of boys in the lower range of scores on the STEP as both these tests contained reading components. There was a slightly greater per cent of boys in the older age range than girls.

For the group interviewed, there was a greater percentage of boys in the middle and high ranges of scores on the Lorge-Thorndike Test than girls. There were no boys in the lowest range for any of the scores. The percentages on the STEP showed a wider distribution of scores for the girls while two-thirds of the boys' scores were concentrated in the middle range. The boys tended to be younger than the girls.

In addition, several interesting comparisons were made with regard to the two groups. The distribution of the two groups was similar with respect to the scores on STEP and with respect to chronological age. However, the distribution of the two groups was dissimilar with respect to scores on the Lorge-Thorndike Test. For the group of students interviewed, the percentage of students in the middle and top range of scores was greater than for the group receiving the Similes Test. Because of the dissimilarities between the two groups of students with respect to the scores on the Lorge-Thorndike Test, it

was necessary to take this into account when comparing the two groups with respect to their reading understanding of similes.

THE TESTING INSTRUMENTS

The five sets of data and the instruments used in this study were:

1. The total, verbal and non-verbal I.Q. scores obtained on the Lorge-Thorndike Intelligence Test , Level 3, Forms A or C
2. The total raw score from the Sequential Test of Educational Progress, Reading, Form 4A, Series II
3. The correct, wrong commonality, confused relationship, paraphrasing and incorrect scores obtained on the Similes Test, which serve as criteria scores
4. The pupils' oral responses to the Interview on the understanding of similes
5. The responses to the Questionnaire on background experiences.

All the tests except items three and four were administered to all the students. The multiple-choice Similes Test was administered to the seventy-four students in the three classes. The other nineteen students were interviewed in order to gain insight into children's ability to interpret and explain orally similes which they read.

Lorge-Thorndike Intelligence Test , Level 3, Forms A or C

The Lorge-Thorndike Intelligence Test , hereafter referred to as the Lorge-Thorndike Test are a series of tests made up of two batteries. The verbal battery consists of the subtests: Word Knowledge, Sentence Completion, Verbal Classification, Verbal Analogies

and Arithmetic Reasoning. The non-verbal battery uses items which are either pictorial or numerical and are included in three subtests: Figure Analogies, Figure Classification and Number Series. This battery gives an estimate of mental ability uninfluenced by the pupil's ability to read test items.

The administration and scoring of the verbal battery was provided by all schools not more than three months prior to this study. However, since only one of the schools had received the non-verbal battery, the researcher administered the test to the other two schools and had the tests machine scored. One school received the two batteries of Form C; the other two received the comparable Form A.

The Lorge-Thorndike Test is considered by Buros (5:350) as among the best of group intelligence tests because of its careful design, construction and standardization. The alternate forms of level 3 correlate highly with .90 correlation coefficient for the verbal battery and slightly less for the non-verbal.

Sequential Tests of Educational Progress, Reading. 4A, Series II

This reading test, hereafter referred to as STEP, has two separately timed parts which yield a single raw score when combined. Both parts use a multiple-choice format. Part I of the test contains sentence comprehension items of two types: "straight-forward" comprehension and inference. The content for these items is taken from four domains: aesthetics, science, world of practical affairs and human relationships. Part II contains six passages with several types of questions asked about each. The reading skills tested, as indicated in the handbook, are ability to identify the main idea,

supporting ideas, intended inference, application, evaluation of logic, and style and tone of the author . The content of the passages is narrative, biological science, humanities and social science (Educational Testing Services, 1969). The researcher examined the test for use of similes. In Part I, item 25 uses a simile in the sentence, and the response to the sentence completion depends on the understanding of this simile. The item is quoted.

The water shrew's whiskers are quite mobile, like the antennae of an insect or the fingers of a blind man.

Mobile means:

- A. long B. numb
- C. useless D. active.

Part II includes four similes in its six passages. The response to item 3 is dependent on the understanding of one of the similes. The simile from the passage and item 3 are quoted.

It (the cave's entrance) was like magic: from the outside you couldn't tell there was anything there at all. No wonder no one had ever found this place before!

3. Why did Luke think that no one had discovered the cave before?
 - A. The cave was very deep in the woods.
 - B. The entrance to the cave was very small.
 - C. The entrance to the cave was hidden.
 - D. The cave was high in the mountains.

This test was administered by the classroom teachers at the researcher's direction. The tests were machine scored at the University of Alberta.

Similes Test

A multiple-choice testing instrument referred to as the Similes Test, whose construction was outlined in Chapter III, was administered

by the researcher. The children's responses were punched on IBM cards and the five scores for each student were computed using a TEST06 programme, supplied by the Division of Educational Research Services at the University of Alberta, in order to obtain the correct, wrong commonality, confused relationship, paraphrasing and incorrect scores for each subject.

Interview

The taped responses to the Interview on the understanding of similes, whose construction was described in Chapter III, were transcribed by the researcher and subjected to an informal analysis.

Questionnaire

The Questionnaire, described in Chapter III, was devised to collect information on the children's background experiences. Each student's responses were recorded on the data sheets along with the student's identification number; five scores on the Similes Test; total, verbal and non-verbal I.Q. scores; STEP raw score; sex; age in months.

THE PILOT STUDY

The Similes Test, Interview and Questionnaire were administered in the pilot study.

Similes Test

Introduction. The fifty item similes test was administered as a pilot project to the three grade five classes in one of the schools of the County of Strathcona on April 27, 1971. As it was not

possible for the researcher to randomly select from several schools the students to be used in the pilot study, it was decided to use all the grade five students in one school in order to ensure a range in scholastic and reading ability. The school used in the pilot study was in the same suburban community as one of the schools used in the final study, but they did not share a common boundary. The students lived in the community or on acreages bordering on it. None of the students lived on farms or in a village as a few of the students did in the test sample. The researcher administered the test to one of the classes in order to gain first hand observations of the pupils' reaction to the test and to note areas of possible change for the final test.

The student answer sheets were machine scored on an IBM 1230 optical scoring machine; the scores were transferred to data cards by an IBM 530 keypunch machine; the correct scores were subjected to a test item analysis, TEST04, supplied by the Education Research Services at the University of Alberta.

Selection of Items for the Similes Test. A description follows of the statistical analyses used to select the thirty best items to make up the Similes Test which was to constitute the source of the criterion scores to be used in the study. In addition, the analyses were used to determine changes in the structure or wording of the multiple-choice answers.

In the selection of the thirty best items, three criteria were used. Consideration was given to items whose:

1. difficulty index approximated .50 (Garrett, 1968, p. 364),

2. validity index was .20 or more (Garrett, 1958, p. 364) obtained through the use of biserial coefficient of correlation,

3. reliability indices were as high as possible.

The difficulty index provided a decimal numerical rating which indicated the proportion of a group passing an item. A difficulty index of .50 indicated that 50 per cent of the pupils writing the test passed the item and 50 per cent failed it. The item variance of such an item is .25 which was the maximum variance an item could have. Such an item would bring out more individual differences than a more difficult or easier item (Garrett, 1958, p. 363).

The validity index of an item was determined by the extent to which the item discriminates among examinees. The biserial coefficient of correlation gave the correlation of a specific item with the total score on the test (Garrett, 1958, p. 364).

A test item analysis of the results obtained by the eighty-nine subjects who participated in the pilot study revealed a KR-20 reliability coefficient of 0.8695.

Using the three criteria described, thirty items were retained for the final test. Of these items twenty-one had a difficulty index between 0.32626 and 0.73075; all of them had a validity index greater than 0.2 and an item reliability index greater than 0.121. Table IX offers a comparison between the fifty items used in the pilot study and the thirty items that were selected to make up the Similes Test.

The thirty items selected following the item analysis were then established as those making up the Similes Test with items 3 to 30 maintaining the same relative positions as on the test used in the

TABLE IX
COMPARISON OF FREQUENCY DISTRIBUTIONS BASED ON THE DIFFICULTY,
VALIDITY, AND THE RELIABILITY INDICES OF ITEMS USED
ON THE PILOT TEST AND THE SIMILES TEST

Difficulty Index	Fifty Items Used in the Pilot Study		Thirty Items Selected for the <u>Similes Test</u>	
	Number of Items	Percentage of Total	Number of Items	Percentage of Total
.124 - .32625	3	6	1	3 1/3
.32626 - .52850	13	26	6	20
.52851 - .73075	23	46	15	50
.73076 - .933	11	22	8	26 2/3
Validity Index	Number of Items	Percentage of Total	Number of Items	Percentage of Total
.061 - .28425	8	16	1	3 1/3
.28426 - .50750	14	28	7	23 1/3
.50751 - .73075	23	46	19	63 1/3
.73076 - .954	5	10	3	10
Reliability Index	Number of Items	Percentage of Total	Number of Items	Percentage of Total
.027 - .120	8	16	0	0
.121 - .213	10	20	6	20
.214 - .306	21	42	16	53 1/3
.307 - .399	11	22	8	26 2/3

pilot study. Items 1 and 2 were positioned because of their relative simplicity. This was done to give the students a feeling of success. Their difficulty indices were greater than 0.798. Since both the sequence of the items and the order of the five choices for each item had been originally placed in position according to their random selection, it was considered unnecessary to reassign their positions. The two examples and the instructions used in the pilot test were retained in the Similes Test (Appendix D).

Interview

One student was interviewed in an attempt to assess the length of the interview, the suitability of the introduction, and to determine the phrasing of the questions to be used in the final interview format.

The one student was randomly selected from six students, one boy and one girl from each of the three classes used in the pilot study considered by their teachers to be average students. The student, a girl, was then interviewed (by a graduate student in elementary education, specializing in reading) in a room designated by the principal.

In order to create a relaxed situation the interviewer engaged the student in informal conversation and asked her to assist in bringing the tape recorder from her car. When they returned to the assigned room, the interviewer drew the student's attention to three objects: a rose, a prism, and a Ukrainian easter egg. They talked informally about their characteristics; possible comparisons that could be made between the objects and the child's experiences with similar objects; the feelings and memories elicited. The inter-

viewer, after telling the student that the comparisons she had made were called similes, explained that she was going to be asked to read some passages containing similes and to answer some questions about them.

The interviewer, using the same similes as those used in the similes test in the pilot study, asked the student to first read the passage silently. She was then asked to give the meaning that she derived from reading the simile and the source of this meaning. In addition, she was asked what feelings the simile evoked in her and to give the meanings of various words that the interviewer felt, from the student's initial meaning response to the simile, were causing her to misinterpret the simile.

It was the intention of the researcher in the final study to interview about twenty students using fifty similes. However, because of the time required, which had been one and a half hours for the one interview in the pilot study, it was decided to retain the number of students interviewed, at about twenty as originally planned, but to decrease the number of similes to ten. Three or four questions per simile were to be asked, depending on the vocabulary in the simile. The similes were randomly selected from the thirty used in the Similes Test and are included in Appendix E.

Questionnaire

Since the Questionnaire had been critically appraised by six adults and four grade five students during its construction as described in Chapter III, it was answered in the pilot study by only one student, the girl who was interviewed. She read the Questionnaire, completed it, and when asked if she needed any question clarified, indicated that

such was not necessary. No changes were made in the Questionnaire other than the ones indicated in Chapter III.

THE TREATMENT OF THE DATA

The data obtained on the seventy-four subjects included:

1. five criteria scores on Similes Test
2. total I.Q. score on Lorge-Thorndike Test
3. verbal I.Q. score on Lorge-Thorndike Test
4. non-verbal I.Q. score on Lorge-Thorndike Test
5. total raw score on STEP
6. sex
7. age in months
8. responses on the Questionnaire.

This information was punched on IBM cards prior to statistical analyses using programmes supplied by the Division of Educational Research Services.

All data obtained on the nineteen subjects interviewed were recorded on data sheets. The data for each subject included all items listed above, except the five criteria scores indicated in item 2. These data were subjected to a descriptive analysis.

The question of the ability of fifth grade students to identify correctly the meaning of a simile in a particular printed context was answered by tabulation of the number and percentage of each classification of responses on the Similes Test and Interview.

Three statistical procedures were applied to test the hypotheses. The relationship between the variables included in hypotheses one to five was tested using the following two statistical

analyses:

1. Pearson Product Moment Correlation to determine if a linear relationship between selected variables existed
2. Stepwise Multiple Linear Regression to determine the rank order of the selected variables as predictors of the criterion scores, that is, the five answer scores to a simile on the Similes Test.

Hypotheses six and seven were not subjected to the two statistical analyses outlined above as these procedures were specifically intended for use with interval data from continuous variables (Fox, 1969, p. 233) which criteria the sex variable and the measure of background experiences did not satisfy. All hypotheses were tested using a third statistical procedure:

One-Way Analysis of Variance to determine if there was a significant difference among students' scores on selected variables and their five answer responses to similes on the Similes Test.

In addition, selected data from the students who received the Similes Test and the data from the students interviewed were examined and the findings were tabulated in order to answer the remaining questions that were not formulated as hypotheses to be tested statistically.

THE RELIABILITY OF CLASSIFICATION OF STUDENT RESPONSES ON THE INTERVIEW

The reliability of the classification of the student responses according to meaning classification; source of clues; feelings; vocabulary was established through interjudge agreement.

The responses were classified by two judges as well as the researcher. Both of the judges held Master's degrees in education and have considerable experience teaching elementary grade students.

To prepare each judge to classify the students' meaning responses to the similes, the researcher described the nine categories using examples. These classifications were the ones developed from the analysis of children's written meaning responses to specific similes as outlined in Chapter III.

When the grade five students were asked how they decided on their meaning responses their answers were classified in the following six categories which were explained to the judges. These included: experience, in which the student stated additional information to what was included in the passage; context, in which he made reference to the words in the passage; experience and context, which included use of both of the above categories; paraphrasing the meaning response in which the student restated his meaning response without elaboration; omission in which the student attempted no response; assumption in which he added additional information that was unrelated to the simile.

For the responses to the two questions involving the students' stated feelings and vocabulary meanings, categorization of the feelings or vocabulary responses were not made. From the transcription of the oral responses from the Interview the judges indicated affirmatively or negatively if the feelings stated by the students fitted the definition of feeling given by Funk and Wagnalls (1963, p. 487). The various kinds of feelings included by them were ones related to emotion,

attitude, impression, opinion and ones of a physical nature. In addition, the judges indicated whether the vocabulary responses were correct or incorrect. The correct responses included synonyms, descriptions, explanations. The incorrect category contained the responses in Feifel and Lorge's (1950, p. 5) error category which included omissions, repetitions and misinterpretations.

Agreements between the researcher and the judges were computed in terms of percentages through use of the Arrington formula (1932), as reported by Feifel and Lorge (1950, p. 5). The formula is

$$\frac{2 \times \text{agreements}}{2 \times \text{agreements} + \text{disagreements}}$$

The percentages of agreement between each of the independent judges were reported in Table X. In order to determine acceptable percentages of agreement, it was necessary to examine studies that had used this formula. Such studies (Feifel and Lorge, 1950; Grant, 1965; Voice, 1968) indicated that the percentages of agreement listed in Table X may be considered satisfactory.

SUMMARY

The student sample was ninety-three grade five students from three schools in the County of Strathcona. Seventy-four of these students received the Similes Test and nineteen were interviewed. In addition to the data collected from the responses to these two instruments, data were collected from the Lorge-Thorndike Test, STEP and the Questionnaire. All testing was done by the researcher or at the researcher's direction except the Lorge-Thorndike Test whose verbal battery had been administered in all schools less than three

TABLE X
PERCENTAGE OF AGREEMENT BETWEEN RESEARCHER
AND INDEPENDENT JUDGES IN THE
CLASSIFICATIONS OF
INTERVIEW DATA

Independent Judges	Percentage of Agreement
1* + 2	97.8
1 + 3	98.2
2 + 3	97.5

* Judge 1 was the researcher.

months prior to the study and whose non-verbal battery was administered by the researcher to the two schools who had not received it.

A pilot study was conducted in order to select the thirty items to be used on the Similes Test and to detect any changes needed in the Interview or Questionnaire.

The data obtained on the seventy-four students who received the Similes Test were subjected to statistical analyses using programmes supplied by the University of Alberta's Computing Centre. In addition, selected data from these students and those interviewed were examined to gain further information about grade five students' reading understanding of similes. The reliability of classification of student responses on the Interview was established through inter-judge agreement.

CHAPTER V

THE FINDINGS OF THE STUDY

The findings of the study are presented in three main sections. First, student achievement on both the Similes Test and the Interview are reported. Second, the findings of the statistical analyses used to test hypotheses one to seven are given. Third, the findings of the descriptive analyses of the selected data from the responses on the Similes Test, Interview and Questionnaire are outlined. These tabulations were made in order to gain further information about grade five students' reading understanding of similes.

STUDENT ACHIEVEMENT ON BOTH THE SIMILES TEST AND THE INTERVIEW

In order to answer the question, "are students in the fifth grade able to identify correctly the meaning of similes in a particular printed context?" the number and percentage of the total responses for each classification was calculated from the answers on both the Similes Test and the Interview as well as from an examination of distribution of student scores.

Description of Total Student Performance on the Similes Test and Interview

The general achievement by the students as shown graphically in Figure 2 indicated that students correctly identified the meanings



FIGURE 2
PERCENTAGE DISTRIBUTION OF STUDENT RESPONSES
ON THE SIMILES TEST AND INTERVIEW

of similes, 65.3 per cent of their responses on the Similes Test while all other responses constituted 34.7 per cent. The students interviewed correctly identified the meanings of similes in 39.5 per cent of their responses while all other responses totalled 60.5 per cent. Smith (1963, p. xiii) has suggested that for reading instruction the level of comprehension, demanding interpretation, should be 70 to 75 per cent, whereas Spache (1964, p. 246) stated that a minimum level of 60 per cent was more realistic. As similes used in the Similes Test and Interview were selected from literature books written for the child reader the students would be reading them at their independent reading level which should be higher than their instructional level. Therefore, it would seem that their comprehension level, especially on the Interview, was low.

The percentage of responses was based on the numbers of answers in each response category, as given in Table XI. On the Similes Test, the mean score for each classification of response included in the answer choices varied from 19.59 for correct responses to .99 for incorrect while the percentage of responses varied from 65.3 per cent to 3.3 per cent, respectively. The three responses which included partial meaning of the similes, the inappropriate commonality, confused relationship and paraphrasing responses, represented 31.3 per cent of the responses and had means of 3.51, 3.35, and 2.51, respectively. These results indicated that students who did not select a correct response for a specific item chose a response from one of the classifications of partial meaning rather than the one from the incorrect category.

For the students interviewed, the percentage of responses

TABLE XI
FREQUENCY DISTRIBUTION OF STUDENT RESPONSES
ON THE SIMILES TEST AND INTERVIEW

Research Instruments	Student Responses											
	Correct	Partial Meaning				Incorrect	Faulty Vocabulary	Omission		Repetition	Emotional	
		Inappropriate Commonality	Confused Relationship	Paraphrasing	No.			%	No.			%
<u>Similes Test</u>	No. % 1450 65.3	No. % 260 11.7	No. % 248 11.2	No. % 186 8.4	No. % 73 3.3	No. % 3 0.1	No.	%	No.	%	No. %	
Range of Scores	4 - 30	0 - 9	0 - 13	0 - 10	0 - 8	0 - 1						
Means	19.59	3.51	3.35	2.51	0.99	.03						
Inter-view	75 39.5	11 5.8	15 7.9	26 13.7	11 5.8	8 4.2	10 5.3	28 14.6	6 3.2			
Range of Scores	2 - 8	1 - 2	1 - 2	1 - 2	1 - 2	1 - 2	1 - 2	1 - 5	1 - 2			
Means	3.95	.58	.79	1.37	.58	.42	.53	1.46	.32			

ranged from 39.5 per cent for correct responses to 3.2 per cent for emotional responses while the mean scores ranged from 3.95 to .32, respectively. The highest mean scores, other than correct, were for paraphrasing and repetition responses which indicated that students stated the simile verbatim in whole or part, or restated the subject or the vehicle without elucidating the meaning. The observation may be made that such responses were considered by the students to be suitable as an answer to the question, "What does the simile mean?" This raises the question as to why they considered such responses appropriate.

The graphic representation of student responses for each classification on the Similes Test and Interview is presented in Figure 3. On the Similes Test, the percentage responses of other than correct classifications ranged from 11.7 for inappropriate commonality response to 3.3 for incorrect response with three omissions for a percentage of 0.1. It was shown that the percentage of responses decreased from correct responses through partial meaning responses to incorrect responses. As has been noted, the student had more difficulty interpreting the classification which included partial understanding of the similes, inappropriate commonality, confused relationship and paraphrasing, than with the category indicating no understanding, the incorrect response. Only 3.3 per cent of the responses indicated the total lack of understanding of the similes whereas 31.3 per cent of the responses showed partial understanding.

From the interview data the categories not included in the Similes Test, faulty vocabulary, omission, repetition and emotional, accounted for 27.4 per cent of the total responses with more than half

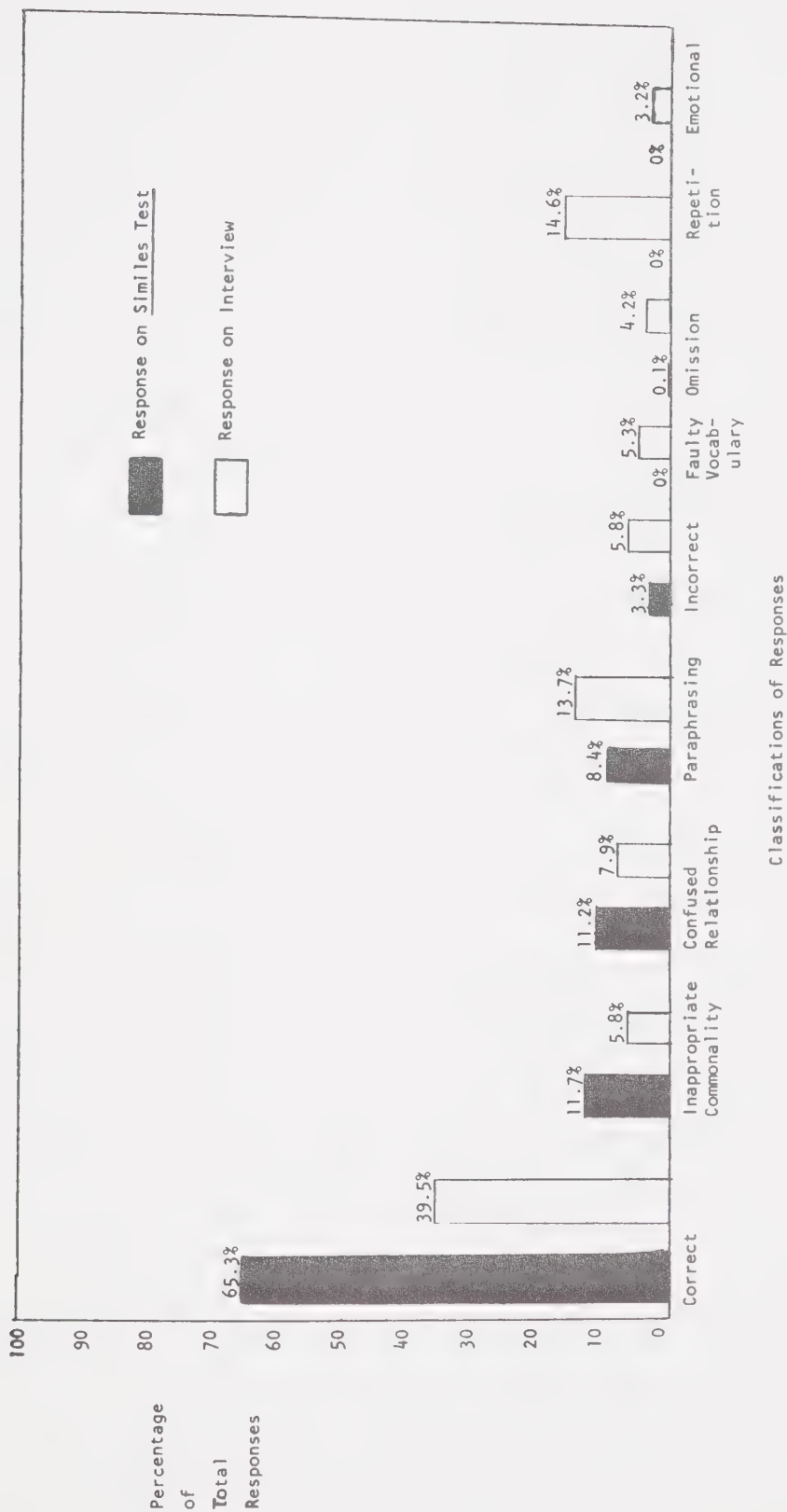


FIGURE 3

PERCENTAGE DISTRIBUTION BY CLASSIFICATION
OF STUDENTS' RESPONSES ON SIMILES
TEST AND INTERVIEW

of these being repetition of the simile in whole or part. There were almost as many paraphrasing answers as repetition. As was indicated, when the students who were interviewed were unable to give a correct meaning for a simile they frequently responded by repeating the simile or part of it, or by paraphrasing the subject or vehicle. Since the students considered that these were appropriate meaning responses, it is suggested that such responses have been considered as acceptable answers in their school programmes.

The grade five students who were interviewed gave answers less often in the three classifications which showed some understanding of the relationship between the subject, the vehicle and the tenor of the simile, namely the correct, inappropriate commonality, confused relationship answers, than those grade five students who were given the Similes Test. This may have indicated that the students who received the Similes Test showed a higher degree of understanding of similes when presented in a multiple-choice format than the students who were interviewed and allowed to give a free response. This difference may also have been due to the less demanding task of selecting an answer from five pre-structured responses on the Similes Test than of giving an answer phrased by the student himself, as was necessary on the Interview. This observation is similar to Orton's (1966) finding that students had greater difficulty verbalizing their understanding of proverbs than selecting a written response. Thus the differences between the two groups, with respect to their reading understanding of similes, may not have been as great as the percentages for the various responses indicated.

Comparisons could not be drawn between the findings of this

study and previous studies designed to assess grade five students' reading understanding of figurative language because of the differences in content and design of the instruments used for such assessments. As both the author's purpose in using similes in his writing and the level of reader understanding needed to grasp the author's meaning may vary between authors, stories or the expressions themselves, various interpretations may be made with regard to grade five students' reading understanding of similes as evidenced from the results of this study.

If the author's use of each specific simile was necessary for the reader's understanding of a main idea, then the student would need to understand all the similes he read and there would be concern for the lack of understanding as evidenced by the results on the Similes Test. A partial or incorrect meaning might cause the student reader to misinterpret or distort the author's meaning. However, it might be possible that a student's understanding of a main idea was not diminished by his partial meaning or even an incorrect interpretation for a specific simile or similes. If so, the results of the Similes Test indicated satisfactory knowledge of similes.

When the child reads he has to rely mainly on his own reading understanding as was necessary in the Interview. This was considered to demand more of the student in that, instead of being presented with pre-structured responses as on the Similes Test, he structured his own responses and gave them orally to the interviewer. As the findings from the students interviewed showed, less than half of their responses were classified as correct and more than a quarter of them were paraphrasing and repetition responses. This prompted the postulation of

several possible reasons for these responses: students did not understand the similes; they had difficulty verbalizing their responses; they thought that repetition and partial paraphrasing constituted a verbally correct response. In turn, it is interesting to consider that these difficulties may have been due to several causes: the students' lack of instruction in interpreting similes; their insufficient independent reading of materials which contained similes; their inexperience with verbal interaction which demanded skills of logical thought; the acceptance by teachers of student responses that showed repetition or rephrasing without elucidation of meaning.

Distribution of Student Scores on the Similes Test

In order to further describe the students' performance, the distribution of the scores of the total test sample, without differentiated groupings and with groupings by sex and by five achievement groups, were tabulated for the Similes Test and Interview.

Distribution of student scores without differentiated groupings .

The frequency distribution on the Similes Test, as outlined in Table XII, revealed that for correct scores both the range and the percentage of higher scores were considerably greater than for the scores in the four other response categories. This distribution may have been due to including only one correct response category but four partial meaning or incorrect categories in the Similes Test.

For the three partial meaning categories the distribution showed a concentration of student scores in the range of scores from one to five inclusive while the incorrect scores were concentrated in

the zero to two range.

Distribution of student scores by sex groupings. In order to further describe the distribution of student scores on the Similes Test, the percentage of boys' and girls' scores for each score category was tabulated. For the correct scores the girls' scores were more evenly distributed; their range of scores was greater; the percentage of scores from the mean score of 19.59 and above was 7.5 per cent more than for the boys.

Distribution of student scores by achievement groupings. A third type of distribution examined was that within five achievement groups. The composition of the five groups was based on the students' correct scores with group one the highest achievers and group five the lowest achievers. As seen on Table XII, correct scores decreased dramatically from group one to group five while the partial meaning and incorrect scores increased.

Achievement groups one and two had the highest correct scores and the lowest scores in the other four classifications. This indicated that these students were able to select the correct response for most of the items. When they did not pick correct responses, they chose second most frequently, responses from the partial meaning category, selecting inappropriate commonality responses first, confused relationship next and paraphrasing last. The least frequently selected were incorrect responses. These results seem to indicate that groups one and two had the greatest understanding of the similes as they were presented on the Similes Test as they were able to select the responses which indicated the most meaning.

Group three, the group with the middle range of correct scores from twenty to twenty-two, had a similar pattern to groups one and two except their correct scores were lower while their partial meaning and incorrect scores were higher. This indicates that group three had less reading understanding of the similes than groups one and two as measured by the Similes Test.

Group four's pattern was different from groups one, two and three in that their correct scores were below the mean score of 19.59 and their frequency distribution of partial meaning responses was different, with confused relationship scores showing a broader distribution than inappropriate commonality scores which had been the category showing the second highest scores to correct scores in groups one, two and three. Although incorrect responses were still least frequently selected and the scores were not greater than three, 60 per cent of the students in group four had selected one or two incorrect responses on the thirty item test while groups one, two and three had 30 per cent or less of such scores. These results showed that group four had lower correct scores than the other three groups and considerably higher scores in the other classifications, especially confused relationship scores. They had less reading understanding of the similes presented in the multiple-choice test than groups one, two or three.

Group five, with the lowest correct scores which ranged from four to fourteen, had a wider range of scores than all other groups which showed that they chose all types of responses other than correct ones more frequently than the other four achievement groups. The order of their selection of responses was first, correct; second, confused

relationship; third, inappropriate commonality; fourth, paraphrasing; last, incorrect. This was the same order as the fourth group which indicated that groups four and five had chosen confused relationship responses as their second choice rather than inappropriate commonality as the other three groups had done. For all categories except correct, group five's scores were higher than the other four groups which indicated that group five had the lowest level of understanding of the similes as measured by the Similes Test.

Distribution of Student Scores on the Interview

A similar tabulation to that described for the Similes Test was presented in Table XIII.

Distribution of student scores without differentiated groupings. Based on the scores of the total nineteen students, the tabulation revealed that 78 per cent of the correct scores were five or less out of a possible score of ten. This indicated that the majority of the students in the Interview, when asked to give the meaning of similes that they read, were able to give the correct meaning of half or less of the similes. The second greatest range of higher scores after correct scores was repetition and paraphrasing scores which indicated that students were restating the simile in whole or in part verbatim, or without elucidating the meaning of the simile. This reinforces the earlier comment that the student on the Interview, when unable to verbalize the correct meaning of a simile, frequently gave a repetition or paraphrasing response. The scores of the other categories had the same range, from zero to two, but the

TABLE XIII

PERCENTAGE DISTRIBUTION OF STUDENT SCORES BY TOTAL
SCORES, SEX AND ACHIEVEMENT GROUP ON
THE INTERVIEW

Students Grouped by:			Percentage of Students Scoring											
			0	1	2	3	4	5	6	7	8	9	10	
T O T A L	Total	Correct	5	16	16	31	10	16			5			
	Scores N = 19	Inappropriate Commonality	55	35	10									
		Confused Relationship	37	47	16									
		Paraphrasing	23	31	36	10								
		Incorrect	58	26	16									
		Faulty Vocabulary	54	41	5									
		Omission	64	31	5									
		Repetition	28	31	26	5	5	5						
		Emotional	80	10	10									
S E X	Girls N = 13	Correct	8	16	8	32	16	24						
		Inappropriate Commonality	60	32	8									
		Confused Relationship	36	56	8									
		Paraphrasing	28	16	40	16								
		Incorrect	60	24	16									
		Faulty Vocabulary	28	64	8									
		Omission	68	24	8									
		Repetition	20	40	24		8	8						
		Emotional	76	8	16									
	Boys N = 6	Correct		17	34	34					17			
		Inappropriate Commonality	49	34	17									
		Confused Relationship	32	34	34									
		Paraphrasing		68	34									
		Incorrect	49	34	17									
		Faulty Vocabulary	83		17									
		Omission	66	34										
		Repetition	32	17	34	17								
		Emotional	83	17										
A C H I E V E M E N T	Group 1 N = 4 (correct scores 6-8)	Correct						75		25				
		Inappropriate Commonality	75	25										
		Confused Relationship	50	50										
		Paraphrasing	25	25	50									
		Incorrect	100											
		Faulty Vocabulary	50	50										
		Omission	100											
		Repetition	25	50	25									
		Emotional	100											
	Group 2 N = 2 (correct scores 5)	Correct					100							
		Inappropriate Commonality	50	50										
		Confused Relationship	50	50										
		Paraphrasing	100											
		Incorrect		50	50									
		Faulty Vocabulary	100											
		Omission		50	50									
		Repetition	50	50										
		Emotional	50	50										
Group 3 N = 6 (correct scores 4)	Correct					100								
	Inappropriate Commonality	17	50	33										
	Confused Relationship	50	33	17										
	Paraphrasing	33	17	33	17									
	Incorrect	67	33											
	Faulty Vocabulary	50	50											
	Omission	50	50											
	Repetition	50	33	17										
	Emotional	83		17										
Group 4 N = 3 (correct scores 3)	Correct				100									
	Inappropriate Commonality	33	67											
	Confused Relationship	33	67											
	Paraphrasing		100											
	Incorrect	33	33	33										
	Faulty Vocabulary	67	33											
	Omission	67	33											
	Repetition		33	33	33									
	Emotional	33	33	33										
Group 5 N = 4 (correct scores 0-2)	Correct	25	75											
	Inappropriate Commonality	100												
	Confused Relationship	25	25	50										
	Paraphrasing		25	50	25									
	Incorrect	50	25	25										
	Faulty Vocabulary	50	25	25										
	Omission	50	50											
	Repetition			50		25	25							
	Emotional	100												

* Percentages have been rounded to the nearest whole number.

concentration in scores of one or two decreased. This decline went from confused relationship, with 63 per cent of the scores being one or two, through faulty vocabulary, inappropriate commonality, incorrect, omission to emotional with 20 per cent of the scores being one or two.

Distribution of student scores by sex groupings. Distribution of the scores received by the boys and girls were similar. However, the boys had a greater range of correct scores than the girls but the girls had a more even distribution and a higher concentration of scores in the middle range, from three to six. This indicated that a greater percentage of the girls had scores near the mean of 3.95 than the boys and therefore showed less of a range in their understanding.

Distribution of student scores by achievement groupings. From the distribution of student scores by achievement groupings, as seen in Table XIII, correct scores were the highest scores for all groups except group five, the group with the lowest correct scores ranging from zero to two out of a possible score of ten, and with higher repetition scores than any other type of score. Group four had, after correct scores, its highest range and concentration in its repetition scores which indicated that the two groups with the lowest correct scores tended to repeat the simile in whole or part. The other three achievement groups had as their second highest scores the other category which involved restatement without elucidation, paraphrasing. These results indicated that all five achievement groups, not just the ones with the lowest correct scores, thought that restatement of the simile in whole or part constituted a suitable meaning response.

Summary

On the Similes Test the distribution patterns of the students' scores showed that they had the widest distribution for correct scores, extending from four to thirty, and the lowest for incorrect scores, indicating that they had at least partial meaning for most of the similes. Girls scored slightly higher than boys with respect to correct scores. With regard to achievement groupings, the group with the highest correct scores had the lowest scores in all other categories while the groups with the lowest correct scores had the highest and broadest range of scores in all other categories, indicating that they had difficulty selecting correct responses. Inappropriate commonality scores were the second highest scores for the top three achievement groups whereas, for the bottom two groups confused relationship scores, which show less understanding of the similes than either correct or inappropriate commonality responses, were the second highest.

On the Interview more than 75 per cent of the students had a score of less than half correct responses. Paraphrasing and repetition scores were the next highest scores which meant that the grade five students interviewed tended to repeat or paraphrase the similes in whole or part when they did not give a correct meaning. This was further evidenced from the examination of the distribution of the scores of the five achievement groupings with the three highest achievement groups having paraphrasing scores as the second highest; group four having repetition scores as the second highest; group five, the lowest achievement group, having repetition scores as the highest followed by paraphrasing. This showed that students in all groups had scores involving restatement responses which they had considered to be suitable responses.

Because the relationships among the elements in similes were considered by Werner and Kaplan (1952, p. 87) to involve a high level of abstraction, they suggested that there would be a range in ability to interpret such language among upper elementary students, depending on the student's own symbolic schemes and his experience with such expressions. In this study this diversity was evident in both the types of responses and the range of scores in each category.

STATISTICAL ANALYSES

Hypotheses 1 to 7 were tested using:

1. Pearson Product Moment Correlation
2. Stepwise Multiple Linear Regression
3. One-Way Analysis of Variance.

The Pearson Product Moment Correlation

The Pearson Product Moment Correlation was applied to determine the relationship between the variables, mental ability, reading ability, chronological age and the criterion scores. The criterion scores were the five student total scores on the Similes Test, namely, correct score, inappropriate commonality score, confused relationship score, paraphrasing score and incorrect score. The relationship between each of the variables and the criterion scores is presented in Table XIV. As there were many statistically significant correlations the significant relationships have not been indicated on the table in the usual manner but rather the minimum statistically significant correlations are indicated.

Analysis of this data indicated that of the variables selected

TABLE XIV

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN SUBJECTS' SCORES ON THE SIMILES TEST, THE LORGE-THORNDIKE TEST, THE STEP TEST AND CHRONOLOGICAL AGE

	SIMILES TEST					Total I.Q.	Verbal I.Q.	Non-Verbal I.Q.	STEP	Age
	Correct Score	Inappropriate Commonality Score	Confused Relationship Score	Paraphrasing Score	Incorrect Score					
1	1	2	3	4	5	6	7	8	9	10
1	1.0000	-0.4848	-0.8002	-0.7746	-0.6257	0.7009	0.7087	0.4597	0.8086	-0.3544
2		1.0000	0.0991	0.1787	0.2274	-0.2999	-0.3670	-0.1309	-0.4297	-0.0915
3			1.0000	0.5381	0.3585	-0.5479	-0.5481	-0.3687	-0.6831	0.4165
4				1.0000	0.3667	-0.5692	-0.5492	-0.4002	-0.5363	0.2769
5					1.0000	-0.5006	-0.4807	-0.3484	-0.5582	0.2912
6						1.0000	0.8000	0.8296	0.6293	-0.5533
7							1.0000	0.3609	0.6668	-0.5420
8								1.0000	0.3875	-0.3844
9									1.0000	-0.3130
10										1.0000

Correlations above .29 are significant at the .01 level

Correlations above .22 are significant at the .05 level

the strongest positive correlations existed between reading ability as measured by STEP, the verbal and total mental ability scores as measured by the Lorge-Thorndike Test, and the correct score on the Similes Test. Since the students' correct scores were based on their reading understanding of similes on the Similes Test, the results outlined above were not unexpected because of the reading component in all three variables.

STEP scores, which specifically measured reading ability, had the highest correlation with the correct scores on the Similes Test. Looby (1939) and Groesbeck (1961) had also found a significant positive correlation between the students' reading and mental abilities and their comprehension of figurative language.

The correlations between age and the criterion scores produced several interesting results. Between age, and correct and inappropriate commonality scores, there was a low negative correlation, while there was a low positive correlation between age, confused relationship, paraphrasing and incorrect scores. These correlations indicated that there was a difference in the direction of the relationships, in that age was inversely related to the two highest levels of scores and directly related to the three other scores. These findings are not in agreement with Horne's (1966), who found that there was no significant relationship between age and children's understanding of figurative language. As Horne's study was conducted using grade six students, it may be suggested that the difference in the findings may be due to the actual age differences in the two groups of students.

The strongest negative correlations existed between reading ability as measured by STEP, the verbal and total mental ability scores

as measured by the Lorge-Thorndike Test and the confused relationship score, paraphrasing score and incorrect score on the Similes Test. These three criterion scores indicated a limited reading understanding of the similes on the Similes Test. Thus the negative correlation between these criterion scores and the scores on measures with a reading component was not unforeseen.

The Stepwise Multiple Linear Regression

The Stepwise Multiple Linear Regression was used to determine the rank order of the selected variables as predictors of the criterion scores. This regression identified that variable which accounted for the largest amount of variance in the criterion score and continued to select those variables which contributed significantly to the variance in the criterion score. The findings of this analysis, presented in Table XV, indicated that for correct score the variables of reading ability as measured by STEP, and mental ability as measured by the total score on the Lorge-Thorndike Test, were the most powerful predictors of the correct score. This indicated that the student with greater reading and mental ability scores were able to identify the correct meaning response to a simile on the Similes Test.

The remaining variables did not contribute significantly to the prediction of the correct score. While the non-verbal and verbal scores on the Lorge-Thorndike Test did not appear to account for any variance in the criterion score, any power these variables may have contributed was incorporated in the total score on the Lorge-Thorndike Test.

For the four other criterion scores, reading ability as measured

TABLE XV
STEPWISE MULTIPLE REGRESSION ANALYSIS
ON THE SIMILES TEST

Scores	Source of Variance Added	Per Cent of Variance Accounted for	Total Variance Accounted for	Per Cent of Variance Not Accounted for
Correct	<u>STEP TEST</u>	67.19 ^{**}	67.19	25.85
	Total I.Q.	5.93 ^{**}	73.12	
	Non-Verbal I.Q.	.71	73.83	
	Verbal I.Q.	.26	74.09	
	Age	.06	74.15	
Inappropriate Commonality	<u>STEP TEST</u>	18.97 ^{**}	18.97	65.31
	Age	5.93 [*]	24.90	
	Verbal I.Q.	6.40 [*]	31.30	
	Total I.Q.	.15	31.45	
	Non-Verbal I.Q.	3.24	34.69	
Confused Relationship	<u>STEP TEST</u>	47.95 ^{**}	47.95	47.07
	Age	4.56 [*]	52.51	
	Total I.Q.	.24	52.75	
	Non-Verbal I.Q.	.02	52.77	
	Verbal I.Q.	.16	52.93	
Paraphrasing	Total I.Q.	33.30 ^{**}	33.30	60.10
	<u>STEP TEST</u>	5.19 [*]	38.49	
	Verbal I.Q.	.59	39.08	
	Age	.32	39.40	
	Non-Verbal I.Q.	.50	39.90	
Incorrect	<u>STEP TEST</u>	32.02 ^{**}	32.02	61.83
	Total I.Q.	3.62 [*]	35.64	
	Age	.11	35.75	
	Non-Verbal I.Q.	.05	35.80	
	Verbal I.Q.	2.37	38.17	

* Significant at the .05 level.

** Significant at the .01 level.

by STEP, was one of the most powerful predictors of the scores. Other variables that were significant in predicting inappropriate commonality score were age and verbal ability, as measured by the Loge-Thorndike Test. Age was also a variable that was significant in predicting confused relationship score. These results reinforced the correlation findings and indicated that there was a significant relationship between age and confused relationship score. As the older students in grade five may be the students who are repeating the grade because of their lack of achievement, this relationship between age and a score which includes responses that show partial meaning was not unexpected. The total ability score on the Loge-Thorndike Test was the other powerful variable in addition to reading ability, as measured by STEP, for predicting paraphrasing and incorrect scores.

The selected variables accounted for varying percentages of the variance in the criterion scores: 74.15 per cent in the correct score; 34.69 per cent in inappropriate commonality score; 52.93 per cent in confused relationship score; 39.90 per cent in paraphrasing score; 38.17 per cent in incorrect score with the variables accounting for the greatest percentage of the variance in the correct score. For the other scores, the variables accounted for less than 40 per cent of the variance except for the 52.93 per cent of the variance accounted for in the confused relationship scores. This indicated that there were other sources of variance. Possible sources of the variance included the child's lack of understanding of similes and the actual test instrument, the Similes Test. The appeal of the passages to the students may have varied among the students because of their reading interests and the structure or words used in the answer choices

may have contributed to an inappropriate association in the mind of the student which misled him in his response identification.

The One-Way Analysis of Variance

One-Way Analysis of Variance was used to test hypotheses one to seven to determine if there were statistically significant differences among students' scores on selected variables and their five answer responses to similes on the Similes Test.

The students were grouped in groups one, two and three which contained 25, 50 and 25 per cent of the seventy-four students, respectively. The grouping was dependent on each of the variables in hypotheses 1 to 5. Included in Appendix G is a summary of the analysis of variance and homogeneity of variance calculations, some of which are statistically significant and thus indicate a heterogeneous distribution. Therefore in those cases one of the assumptions of the analysis of variance is not met which limits the generalizability of the results.

Hypothesis 1

There is no statistically significant relationship between grade five students' total scores on the Lorge-Thorndike Test and their :

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores obtained on the Similes Test.

On examination of Table XVI, an increase was observed in group means for correct scores from group one, the group with the lowest total scores on the Lorge-Thorndike Test, to group two, and from group

TABLE XVI

ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE COMPARISONS
OF MEANS ON THE SIMILES TEST BY TOTAL SCORE
ON THE LOGGE-THORNDIKE TEST

Group Means on Similes Test by	Total Score on the <u>Logge-Thorndike Test</u>			Mean Difference Between Groups		
	85 - 100					
	Group 1 (N = 18)	Group 2 (N = 37)	Group 3 (N = 19)	1 - 2	1 - 3	2 - 3
Correct Score	12.44	20.84	23.95	8.40**	11.51**	3.11
Inappropriate Commonality Score	4.50	3.35	2.89	1.15	1.61*	.46
Confused Relationship Score	5.78	3.08	1.58	2.70**	4.20**	1.50
Pharaphrasing Score	4.72	2.05	1.32	2.67**	3.40**	.73
Incorrect Score	2.44	.65	.26	1.79**	2.18**	.39

* Significant at the .05 level.

** Significant at the .01 level.

two to group three, while the group means for the four other classifications decreased between group one and group two, and between group two and group three. This indicated that the students with the lowest range in total mental ability scores, from 85 to 100, were the students who had the lowest mean correct score and the highest mean score for the four other classifications.

In order to establish whether the differences between the groups on each of the classifications of responses was significant, the Scheffé Multiple Comparison method of comparing means was used. For the purposes of this study the level of significance accepted was .05 but significant relationships at the .01 level were indicated.

There were significant differences at the .01 level of confidence between groups one and two, and between groups one and three for all scores except inappropriate commonality and then only between groups one and three at the .05 level of confidence. Because of these nine significant differences out of a possible fifteen, Hypothesis 1 was rejected in part. However, concern is expressed for the lack of statistically significant differences between the mean scores on the Similes Test for the middle range of scores and top scores on the Lorge-Thorndike Test. This indicated that the students with the middle range of scores, which was from 101 to 117, had a reading understanding of similes almost as high as the students with the top range of scores, from 118 to 139, as measured by the Similes Test. It is possible that instruction in reading comprehension may not have been made pertinent to the differing abilities in the two groups.

Hypothesis 2

There is no statistically significant relationship between grade five students' verbal scores on the Lorge-Thorndike Test and their:

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores

obtained on the Similes Test.

A similar procedure was used as outlined with respect to Hypothesis 1. By inspecting Table XVII an increase in group means was seen for correct scores from groups one to two, and from groups two to three while a decrease between these groupings in the other four scores was observed. There was a significant difference at the .01 level of confidence between groups one and two, and between groups one and three in all responses except inappropriate commonality and then only between groups one and three at the .05 level of confidence. These findings were very similar to those found when testing Hypothesis 1. This was not unexpected as the total scores on the Lorge-Thorndike Test were composed in part from the verbal scores on that test. Because of the nine significant relationships from a possible fifteen, Hypothesis 2 was rejected in part.

Hypothesis 3

There is no statistically significant relationship between the grade five students' non-verbal scores on the Lorge-Thorndike Test and their :

- a. correct scores

TABLE XVII
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES
TEST BY VERBAL SCORE ON THE
LORGE-THORNDIKE TEST

Group Means on <u>Similes</u> Test by	Verbal Score on Lorge-Thorndike Test			Mean Difference Between Groups		
	86 - 102	103 - 125	126 - 138			
	Group 1 (N = 20)	Group 2 (N = 37)	Group 3 (N = 17)	1 - 2	1 - 3	2 - 3
Correct Score	13.65	20.73	24.12	7.08**	10.47**	3.39
Inappropriate Commonality Score	4.40	3.46	2.59	.94	1.81*	.87
Confused Relationship Score	5.70	2.86	1.65	2.84**	4.05**	.21
Paraphrasing Score	4.10	2.22	1.29	1.88**	2.81**	.93
Incorrect Score	2.10	.68	.35	1.42**	1.75**	.33

*Significant at the .05 level.

**Significant at the .01 level.

- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores

obtained on the Similes Test.

The procedure as outlined under Hypothesis 1 was used.

The findings, as indicated in Table XVIII, showed that there was an increase in group means for correct scores from groups one to two, and from groups two to three, while there was a decrease between these groupings for all other scores. There were significant differences between groups one and two and between groups one and three for all scores except the means of inappropriate commonality scores. As a result of these eight significant relationships, Hypothesis 3 was rejected in part.

These findings were similar to those found in Hypothesis 1, as might be expected since the non-verbal test scores were used in calculating the total scores on the Lorge-Thorndike Test. However, the differences between the mean scores were not as great as those found when the students were grouped on the basis of total or verbal ability scores. This was not unexpected as both of these scores were based on the verbal ability scores which contained a reading component as did the Similes Test. As was noted with respect to Hypothesis 1, statistically significant differences were not evidenced between the mean scores on the Similes Test by the middle range of scores and the high scores on the Lorge-Thorndike Test.

TABLE XVIII
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES
TEST BY NON-VERBAL SCORE ON
THE LORGE-THORNDIKE TEST

Group Means on <u>Similes</u> Test by	Non-Verbal Score on <u>Lorge-Thorndike Test</u>			Mean Difference Between Groups		
	63 - 98	99 - 116	117 - 142			
	Group 1 (N = 19)	Group 2 (N = 37)	Group 3 (N = 18)	1 - 2	1 - 3	2 - 3
Correct Score	14.37	20.73	22.78	6.36**	8.41**	2.05
Inappropriate Commonality Score	4.11	3.41	3.11	.70	1.00	.30
Confused Relationship Score	5.21	2.86	2.39	2.35*	2.82**	.47
Paraphrasing Score	4.26	2.08	1.56	2.18**	2.70**	.52
Incorrect Score	1.95	.89	.17	1.06*	1.78**	.72

* Significant at the .05 level.

** Significant at the .01 level.

Hypothesis 4

There is no statistically significant relationship between the grade five students' raw scores on the STEP and their:

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores

obtained on the Similes Test.

A similar procedure was used to that outlined under Hypothesis 1. The results, as presented in Table XIX, indicated that there was an increase in the group means for the correct scores between groups one and two, and between groups two and three, while there was a decrease in mean scores between these groups for all other mean scores. A significant difference was seen between groups one and two for all scores except paraphrasing scores while there was a significant difference at the .01 level of confidence between groups one and three for all scores. There was a significant difference between groups two and three and all scores except incorrect scores. These findings showed a greater number of statistically significant differences between group means than the relationships investigated in the first three hypotheses. This was expected as both the STEP and the Similes Test were designed to measure specific aspects of students' reading ability. Based on the thirteen statistically significant relationships from a possible fifteen between STEP and the mean scores on the Similes Test, Hypothesis 4 was rejected in part.

TABLE XIX

ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES
TEST BY RAW SCORE ON STEP

Group Means on <u>Similes</u> Test by	Raw Score on STEP			Mean Difference Between Groups		
	1 - 38	39 - 49	50 - 56	1 - 2	1 - 3	2 - 3
	Group 1 (N = 18)	Group 2 (N = 37)	Group 3 (N = 19)			
Correct Score	12.83	19.76	25.68	6.93 ^{**}	12.85 ^{**}	5.92 ^{**}
Inappropriate Commonality Score	4.89	3.51	2.21	1.38 [*]	2.68 ^{**}	1.30 [*]
Confused Relationship Score	6.17	3.16	1.05	3.01 ^{**}	5.12 ^{**}	2.11 ^{**}
Paraphrasing Score	3.83	2.73	0.84	1.10	2.99 ^{**}	1.89 ^{**}
Incorrect Score	2.22	0.78	0.21	1.44 ^{**}	2.01 ^{**}	.57

* Significant at the .05 level.

** Significant at the .01 level.

Hypothesis 5

There is no statistically significant relationship between grade five students' chronological age and their:

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores

obtained on the Similes Test.

The findings as outlined in Table XX showed that group two's mean scores were the highest for correct scores and the lowest for all other scores except confused relationship scores for which group one was the lowest. Group three's means were the lowest for correct scores and the highest for all other scores. These results indicated that the youngest and middle age groups had the highest correct scores while the oldest students had the lowest and therefore the least understanding of similes as measured by the Similes Test. This was seen in the negative correlation between age and correct score. In addition, the oldest students had the highest mean confused relationship score. The relationship between age and confused relationship scores was seen in the low positive correlation and in the significance age played as a predictor of confused relationship score.

There were six statistically significant differences at the .01 level of confidence between groups one and three for correct and confused relationship scores, and between groups two and three for all scores except the inappropriate commonality. Because of these statistically significant differences, Hypothesis 5 was rejected in part.

TABLE XX
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE
SIMILES TEST BY AGE

Group Means on <u>Similes</u> <u>Test by</u>	Chronological Age in Months			Mean Difference Between Groups		
	121 - 128	129 - 134	135 - 146	1 - 2	1 - 3	2 - 3
	Group 1 (N = 18)	Group 2 (N = 37)	Group 3 (N = 19)			
Correct Score	20.78	21.92	13.95	1.14	6.83**	7.97**
Inappropriate Commonality Score	3.83	3.03	4.16	.80	.33	1.13
Confused Relationship Score	1.94	2.73	5.89	.79	3.95**	3.16**
Paraphrasing Score	2.50	1.73	4.05	.77	1.55	2.32**
Incorrect Score	0.94	0.57	1.84	.37	.90	1.27**

*Significant at the .05 level.

**Significant at the .01 level.

Hypothesis 6

There is no statistically significant relationship between the sex of the grade five students and their:

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores

obtained on the Similes Test.

Group one was composed of the forty girls and group two was composed of the thirty-four boys who received the Similes Test. The mean scores for the two groups were presented in Table XXI. The differences between the mean scores of the two groups on the Similes Test was .30 or less for each of the five scores. These differences were not significant at the .05 level of confidence and thus Hypothesis 6 was retained. Groesbeck (1961) had also found no significant relationship between sex and reading understanding of figurative language.

Hypothesis 7

There is no statistically significant relationship between grade five students' background experiences as measured by the Questionnaire and their:

- a. correct scores
- b. inappropriate commonality scores
- c. confused relationship scores
- d. paraphrasing scores
- e. incorrect scores

obtained on the Similes Test.

TABLE XXI
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE
SIMILES TEST BY SEX

Group Means on <u>Similes</u> <u>Test by</u>	Sex of Groups		Mean Difference Between Groups
	Girls	Boys	
	1	2	
Correct Score	19.73	19.44	.29
Inappropriate Commonality Score	3.38	3.68	.30
Confused Relationship Score	3.28	3.44	.16
Paraphrasing Score	2.45	2.59	.14
Incorrect Score	1.10	.85	.25

In order to test Hypothesis 7, the Scheffé Multiple Comparisons method of comparing means was used to analyse the responses to every question on the Questionnaire except question thirteen. The data collected in response to question thirteen was not used in this study as many students had misinterpreted the question and marked several responses rather than just one as the question had asked.

The data analysis produced some significant results for questions seven, eight and ten. These results and the results of questions six and nine, although not statistically significant, will be presented.

Question seven asked the students to indicate the frequency of their newspaper reading. Table XXII summarized these results. For the five classifications of scores the means for groups two and three, the two groups who read the newspaper, were similar. Their mean correct scores were higher than group one while all other mean scores, except paraphrasing scores, were lower. The differences between means for groups one and two, and groups one and three were statistically significant at the .05 level for mean correct scores and at the .01 level for mean confused relationship scores. Thus there were four statistically significant relationships between the groups that did not read the newspaper and the groups that did read the newspaper with respect to their mean scores on the Similes Test.

Question eight on the Questionnaire asked the students to indicate, "About how many books are in your home?" The mean scores on the Similes Test of the three groups are outlined in Table XXIII. The means for group one were lowest for correct score, and highest for all other scores. Group three had the highest mean correct score

TABLE XXII
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES
TEST BY FREQUENCY OF
NEWSPAPER READING

Group Means on <u>Similes</u> Test by	Frequency of Newspaper Reading			Mean Difference Between Groups		
	Not at All	About once a Week	Every day			
	Group 1 (N = 14)	Group 2 (N = 34)	Group 3 (N = 26)	1 - 2	1 - 3	2 - 3
Correct Score	15.57	20.24	20.92	4.67 [*]	5.35 [*]	.68
Inappropriate Commonality Score	4.14	3.21	3.58	.93	.56	.37
Confused Relationship Score	6.14	2.88	2.46	3.26 ^{**}	3.68 ^{**}	.42
Paraphrasing Score	2.43	2.56	2.50	.13	.07	.06
Incorrect Score	1.64	1.09	.50	.55	1.14	.59

*Significant at the .05 level.

**significant at the .01 level.

TABLE XXIII

ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES
TEST BY QUANTITY OF BOOKS
IN THE HOME

Group Means on <u>Similes</u> Test by	Quantity of Books in the Home			Mean Difference Between Groups		
	0 - 49	50 - 99	100 or more			
	Group 1 (N = 14)	Group 2 (N = 34)	Group 3 (n = 26)	1 - 2	1 - 3	2 - 3
Correct Score	16.50	19.91	20.85	3.41	4.35	.94
Inappropriate Commonality Score	4.79	3.21	3.23	1.58*	.56	.02
Confused Relationship Score	4.36	3.59	2.50	.77	1.86	1.09
Paraphrasing Score	3.00	2.47	2.31	.53	.69	.16
Incorrect Score	1.29	.82	1.04	.47	.25	.22

*Significant at the .05 level.

and two of the lowest mean scores for the other four scores. This indicated that students in groups two and three, the ones who had fifty or more books in their home, had a higher mean correct score and lower scores in the four other categories than those students who had less than fifty books in their home. The only statistically significant difference was between groups one and two for the mean inappropriate commonality scores. This was significant at the .05 level of confidence.

Question ten asked the students to indicate how frequently they borrowed books from any library. The mean scores for group three, the group who borrowed books every week, were the highest for correct score and lowest for all other scores while group one had the lowest mean correct score. There were statistically significant differences between these two groups, the group who never borrowed books and the group who borrowed books most frequently from a library, for the mean correct, confused relationship and incorrect scores.

There was also a statistically significant difference between groups one and two for the mean confused relationship scores and between groups two and three for the mean inappropriate commonality scores. These results, which are summarized in Table XXIV, showed that there were five statistically significant relationships between the frequency that grade five students borrowed books from a library and their scores on the Similes Test.

The data analysis for questions six and nine of the Questionnaire, although not statistically significant, showed interesting results. Question six asked the students to give the number of books they read each week, and question nine asked them to indicate approximately

TABLE XXIV
ANALYSIS OF VARIANCE AND SCHEFFÉ MULTIPLE
COMPARISON OF MEANS ON THE SIMILES TEST
BY FREQUENCY OF BOOKS BORROWED
FROM ANY LIBRARY

Group Means on <u>Similes</u> Test by	Frequency of Books Borrowed from any Library			Mean Difference Between Groups		
	Not at All	Once or Twice a Month	Every Week			
	Group 1 (N = 8)	Group 2 (N = 10)	Group 3 (N = 56)	1 - 2	1 - 3	2 - 3
Correct Score	14.25	16.90	20.84	2.65	6.59**	3.94
Inappropriate Commonality Score	3.88	5.10	3.18	1.22	.70	1.92*
Confused Relationship Score	6.38	3.00	2.98	3.38*	3.40**	.02
Paraphrasing Score	3.13	3.20	2.30	.07	.83	.90
Incorrect Score	2.25	1.70	0.68	.55	1.57*	1.02

*Significant at the .05 level.

**Significant at the .01 level.

how many books they owned. The results, as outlined in Table XXV, showed that the means of group three were the highest for correct scores and lowest for all other scores. The means of group one were the lowest for correct score and the highest for all other scores except paraphrasing score. These results indicated that the grade five students who read the most books each week and the ones who owned the most books had the highest mean correct scores and the lowest mean scores for the other four categories on the Similes Test.

From the analyses of data with respect to Hypothesis 7, the results indicated that there were a total of ten significant relationships between certain background experiences, as measured by the Questionnaire, and the students' responses on the Similes Test. Therefore, Hypothesis 7 was rejected in part.

From the results of the One-Way Analysis of Variance there were found to be some statistically significant relationships between grade five students' total, verbal and non-verbal scores on the Lorge-Thorndike Test, their raw scores on STEP, their chronological age, certain background experiences as measured by the Questionnaire and their responses on the Similes Test. There was also found to be no statistically significant relationship between the grade five students' sex and their responses on the Similes Test.

FINDINGS OF THE DESCRIPTIVE

ANALYSIS OF SELECTED DATA

In order to gain more information about the characteristics of specific groups of students and about the student responses on the Similes Test and Interview, selected data were examined in a

TABLE XXV

GROUP MEANS ON THE SIMILES TEST BY NUMBER
OF BOOKS READ EACH WEEK AND NUMBER
OF BOOKS OWNED

Group Means on <u>Similes</u> Test by	Number of Books Read Each Week		Number of Books Owned			
	None	Part of One	More Than One	Group Means on <u>Similes Test</u>		
				Group 1 (N = 3)	Group 2 (N = 44)	Group 3 (N = 17)
Correct Score	14.50	17.95	20.61	16.85	19.48	22.00
Inappropriate Commonality Score	4.50	3.84	3.31	4.38	3.57	2.71
Confused Relationship Score	5.00	4.16	2.92	5.15	3.14	2.53
Paraphrasing Score	3.00	3.00	2.29	2.31	2.82	1.88
Incorrect Score	2.75	.95	.86	1.31	.98	.76

variety of ways. This examination was carried out to answer the remaining questions which were posed in Chapter I and have not been considered in the preceding sections of this chapter.

Question Three

Question three asked, "What are the characteristics with respect to mental ability, reading ability, sex, chronological age and background experiences of the two groups of students who correctly identified on the Similes Test and Interview the meaning of the most similes and the one who correctly identified the least similes?" This question was answered by examining the groups on the selected variables. The results of these findings were outlined in Table XXVI.

On the Similes Test, the seventeen students with the highest correct scores had above average mental and reading ability scores and were average age. There were eight boys and nine girls in the group. They read one or more books each week and read the newspaper once or more each week. In most of their homes there were fifty or more books of which they owned ten or more. All except one of the students borrowed books from the library every week.

The fifteen students with the lowest correct scores had below average mental and reading ability scores and were above the average age. There were three times as many girls as boys in the group. The students' responses on the Questionnaire were not so concentrated in the highest categories as the highest scores for either book and newspaper reading or frequency of library use.

The highest scorers on the Interview neither omitted giving a meaning response to a simile nor gave a totally incorrect one, whereas

TABLE XXVI
COMPARISON OF HIGHEST AND LOWEST
SCORERS ON THE SIMILES
TEST AND INTERVIEW ON
SELECTED VARIABLES

Student Grouping by:			Similes Test		Interview	
			Highest Scorers (N = 17)	Lowest Scorers (N = 15)	Highest Scorers (N = 4)	Lowest Scorers (N = 4)
Percentage Responses to Similes	Part	Correct	88	33.3	65	15
		Inappropriate	6.9	16.4	2.5	0
		Commonality				
		Confused	2.7	22.7	5	12.5
	g	Relationship				
		Paraphrasing	2.0	17.8	12.5	20
	Incorrect		4	9.6	0	7.5
		Faulty Vocabulary			5	7.5
Omission			.2	0	5	
Repetition				10	32.5	
Mean Score Large-Thorndike Test	Total	Emotional			0	0
Mean Scores STEP		51	36	51	35	
Sex		9 G 8 B	11 G 4 B	3 G 1 B	3 G 1 B	
Mean Chronological Age in Months		131	135	131	132	
Questionnaire Responses	Books Read Each Week	None	1	2	0	0
		Part of One	1	3	0	1
		One or More	15	10	4	3
	Newspaper Reading	Not at All	0	4	0	0
		Once a Week	8	6	3	3
		Every Day	9	5	1	1
	Total Books in Home	0 - 49	2	5	1	0
		50 - 99	3	4	2	2
		100 or more	12	6	1	2
	Books Owned by Student	0 - 9	0	4	1	0
10 - 49		10	9	2	3	
50 or more		7	3	1	1	
Books Borrowed From Library	Not at All	0	3	0	0	
	Once or Twice a Month	1	4	0	1	
	Every Week	16	8	4	3	

the lowest scorers omitted responses and gave incorrect responses.

On the Lorge-Thorndike Test the four highest scorers had higher mean scores than the other four scorers. However, the discrepancy is not as great as between the results of the two groups on the Similes Test. This was a difference noted in Chapter IV when the test sample was described. The highest scorers on the Interview, with a slightly lower mean chronological age than the lowest scorers, indicated that they borrowed books from the library every week and that they read one or more books each week.

A comparison of the percentage responses of the highest and lowest scorers is shown graphically in Figure 4 for both the responses on the Similes Test and Interview which indicated the greater percentage of correct scores for both groups on the Similes Test than on the Interview.

Question Four

The fourth question posed was, "What are the distinctive features of the items that the students on each of the Similes Test and Interview found the easiest and most difficult to understand?" The description of these similes by Lockhart, in her study in progress, was used. The easiest item on the Similes Test, which had 90.5 per cent correct responses, appeared as the second item on the Similes Test (Appendix D). This item was not one of the ones that had been randomly selected to be used in the Interview. On the Interview, item one (Appendix E) was the easiest with 78.9 per cent correct responses. This item, which was also the first item on the Similes Test, was correctly identified in 79.7 percent of the multiple-choice responses.

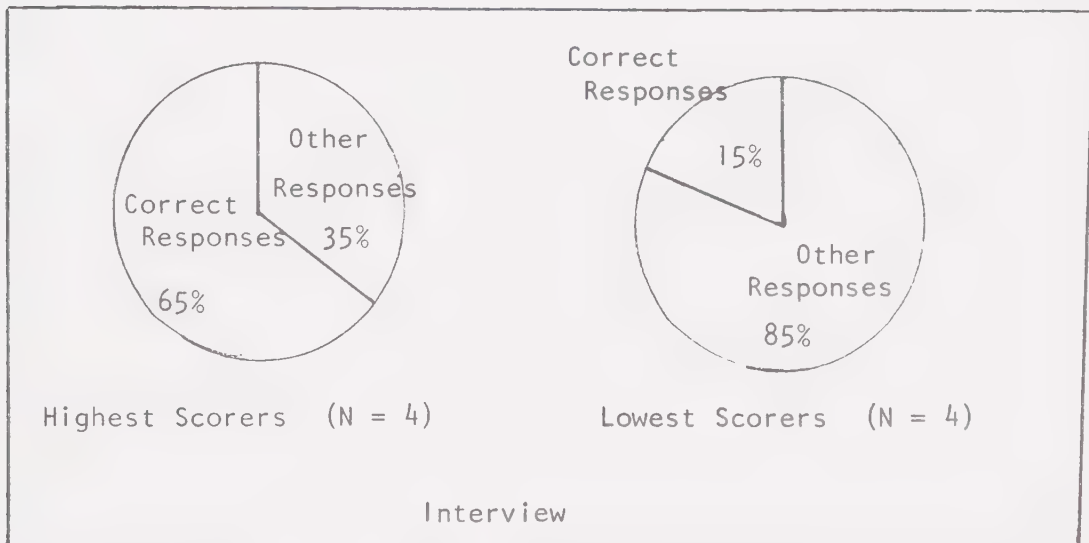
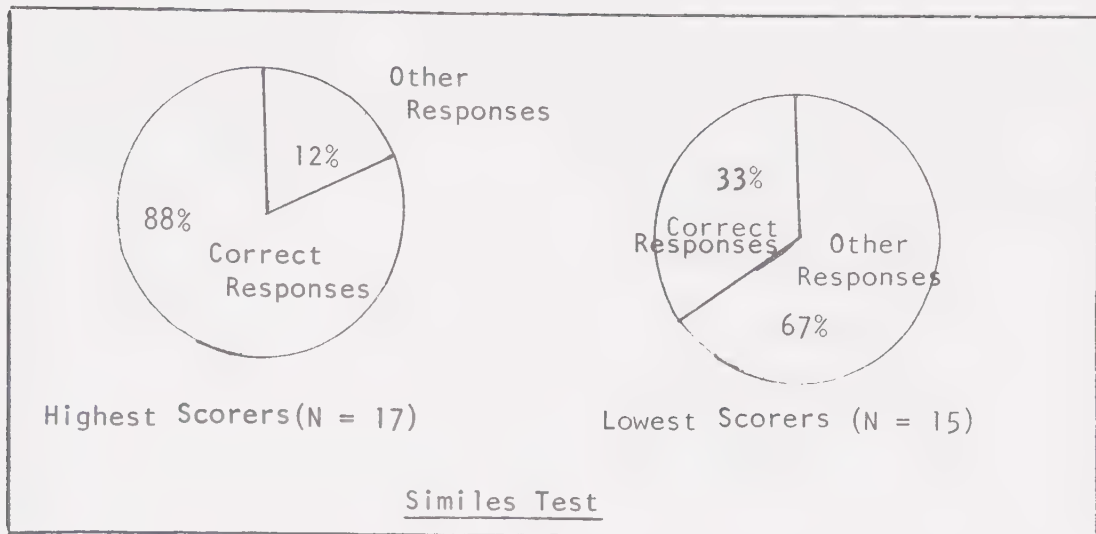


FIGURE 4

COMPARISON OF THE PERCENTAGE RESPONSES
OF THE HIGHEST AND LOWEST SCORERS
ON THE SIMILES TEST
AND INTERVIEW

The two most difficult items on the Similes Test were also the most difficult items on the Interview. They were items three and eleven on the Similes Test. They received no correct responses on the Interview and 29.7 per cent and 39.2 per cent correct responses respectively, on the Similes Test.

Table XXVII presented the four similes and Lockhart's (1971) description of each. The suitability of the reading vocabulary was assessed using The Teacher's Word Book of 30,000 Words (Thorndike and Lorge, 1959).

The order of the four elements, namely, subject, commonality, link and vehicle were given as well as the classification of the subject and vehicle. These classifications, as used by Lockhart, included two major categories, "concrete" and "non-concrete" with further minor categories in each. The term "concrete" was used to apply to anything that took up space, namely, a solid, gas or liquid while "non-concrete" was anything that did not take up space. Within the concrete category were the three subdivisions, "person," which was the term applied to a human or part of a human; "animal," applied to members, a member or part of a member of the animal kingdom, other than human; "object" applied to any other concrete items other than "person" or "animal." The two sections of the non-concrete category were "abstract," the term applied to a quality, condition or an idea not immediately available to any of the five senses, and "other," any non-concrete concept which was not classified as "abstract." In addition, the similes were classified as to which of the five senses they appealed: hearing, seeing, touching, smelling, and tasting.

TABLE XXVII

A DESCRIPTION OF THE MOST DIFFICULT AND
EASIEST ITEMS ASSESSED BY THE NUMBER
OF CORRECT RESPONSES ON THE
SIMILES TEST AND INTERVIEW

	Simile	Percentage Correct Responses on:		Description of Simile [*]		
		<u>Similes Test</u>	<u>Interview</u>	<u>Reading Vocabulary Suitable to</u>	<u>Order of Elements; Classification of Subject and Vehicle</u>	<u>Sense Appeal</u>
Easiest Item on:	<u>Similes Test</u> Murna spoke for me, like a lioness whose cub is threatened	90.5	This simile was not included in the Interview	Grades 5 and 6 except "lioness" which is grade 11	<u>Subject, Commonality, Link, Vehicle</u> Subject 2 concrete persons concrete animals	Hearing
	<u>Interview</u> He was a small Chagga with fists like hams, a round polished face and a perpetual grin.	79.7	78.9	Grade 4 except "ham" which is grade 5	<u>Subject, Link, Vehicle</u> concrete person concrete animal	Seeing
Most Difficult Items on:	<u>Similes Test and Interview:</u> He called it up now, like golden water, like a trumpet call, the Light of Mithras	29.7	0	Grade 4 except "trumpet" which is grade 5	<u>Subject, Link, Vehicle, Link, Vehicle</u> non-concrete object concrete other non-concrete other	Seeing, Hearing
	... the nearest tongue of the birchwoods that were spreading like a stain through the ragged mist,	39.2	0	Grade 4 except "tongue" which is grade 5.	<u>Subject, Commonality, Link, Vehicle</u> concrete object non-concrete other	Seeing

^{*}Margaret Lockhart's description used in "An Investigation of Similes Found in Selected Fiction Written for Children in Grades Four, Five and Six" (M. Ed. thesis in progress, University of Alberta, 1971).

When these descriptions were examined in order to determine the characteristics in the similes that made them easy or difficult for the grade five students to understand, neither the description of the suitability of vocabulary nor the sense appeal seemed to contribute any solutions. From inspecting the number and order of elements, as they are listed in Table XXVII, the difference between the first most difficult item listed and the other three items was the second link, "like," followed by a second vehicle. On further examination of the classifications of the subjects and vehicles it was noted that the easiest items on both the Similes Test and Interview involved comparisons between people and animals while the two most difficult items used comparisons involving elements from the classifications of concrete object, and non-concrete other. This may have indicated that the grade five children on both the Similes Test and Interview understood comparisons between people and animals, but had difficulty understanding comparisons involving object or non-concrete referents.

In addition to these findings this researcher observed that the student responses on the Interview to the simile:

He called it up now, like golden water, like a trumpet call,
the Light of Mithras, ...

involved two main difficulties; lack of meaning for the phrase, "called it up," and inability to relate meaningfully all the elements, namely, the subject and the two vehicles. As a result of this difficulty students gave responses that: confused the relationship involved; paraphrased part of the subject or vehicles; gave a response which presented a new subject or vehicle; repeated or omitted giving a response to the simile. In the other most difficult item which included

the simile:

... the nearest tongue of the birchwoods that were spreading like a stain through the ragged mist ...,

fourteen out of the nineteen students lacked any suitable meaning for the phrase, "nearest tongue of the birchwoods." This phrase, as well as the use of the word "spreading", were both figurative expressions. It seemed that these expressions contributed to the meaning difficulties presented by the simile. From a description of these similes and grade five students' understanding of them, students had difficulty interpreting similes that included several elements that had to be related to each other, additional figurative phrases or expressions that were not in their reading or oral vocabulary. Looby (1939) and Simmons (1954) had also observed that involved sentence structure caused difficulty to the student when interpreting figurative language.

Question Five

Question five asked, "Where do students get clues which they identify as the ones that assisted them in gaining meaning for the similes they read?" This was answered by examining their responses on the interview to the questions, "How do you know it [the simile] means that?" Their responses were classified in six categories. These included experience, which meant that the student was stating additional information to what was in the passage; context, which meant that he was making reference to the words in the passage; experience and context, which included use of both the above categories; paraphrasing meaning response in which the student restated his meaning response; omission in which the student attempted no response; assumption response in which the student added additional information that was not

related to the simile.

The percentage of each type of identified clue for the correct responses and all other responses was graphically shown in Figure 5. This indicated that the students who gave the correct meaning responses to the similes used their experience for 53.3 per cent of the responses; context for 37.3 per cent and a combination of both for 5.3 per cent. Their other responses were omissions and assumptions which totalled 4.0 per cent. However, the students who did not correctly identify the meaning of the similes used their experiences for 29.6 per cent of their responses which was more than 20 per cent less than the students who gave the correct meanings for the similes, and they used context in 46.9 per cent of their responses which is about 9 per cent more than the other group. Looby (1939) had observed that students in her study had used the context to derive faulty meanings. The other large category of responses was omission which indicated that they stated no source or reason for their meaning response to the similes. From these findings the students in the Interview who gave the correct responses to the similes used their experiential background more, while the students who gave other than correct responses used the context of the simile or failed to verbally identify any source for their meaning response. None of the students who had given an other than correct response gave any indication of their misinterpretations when giving the sources of their meaning responses. Holmes (1959) had also found that students were unaware of their faulty interpretations.

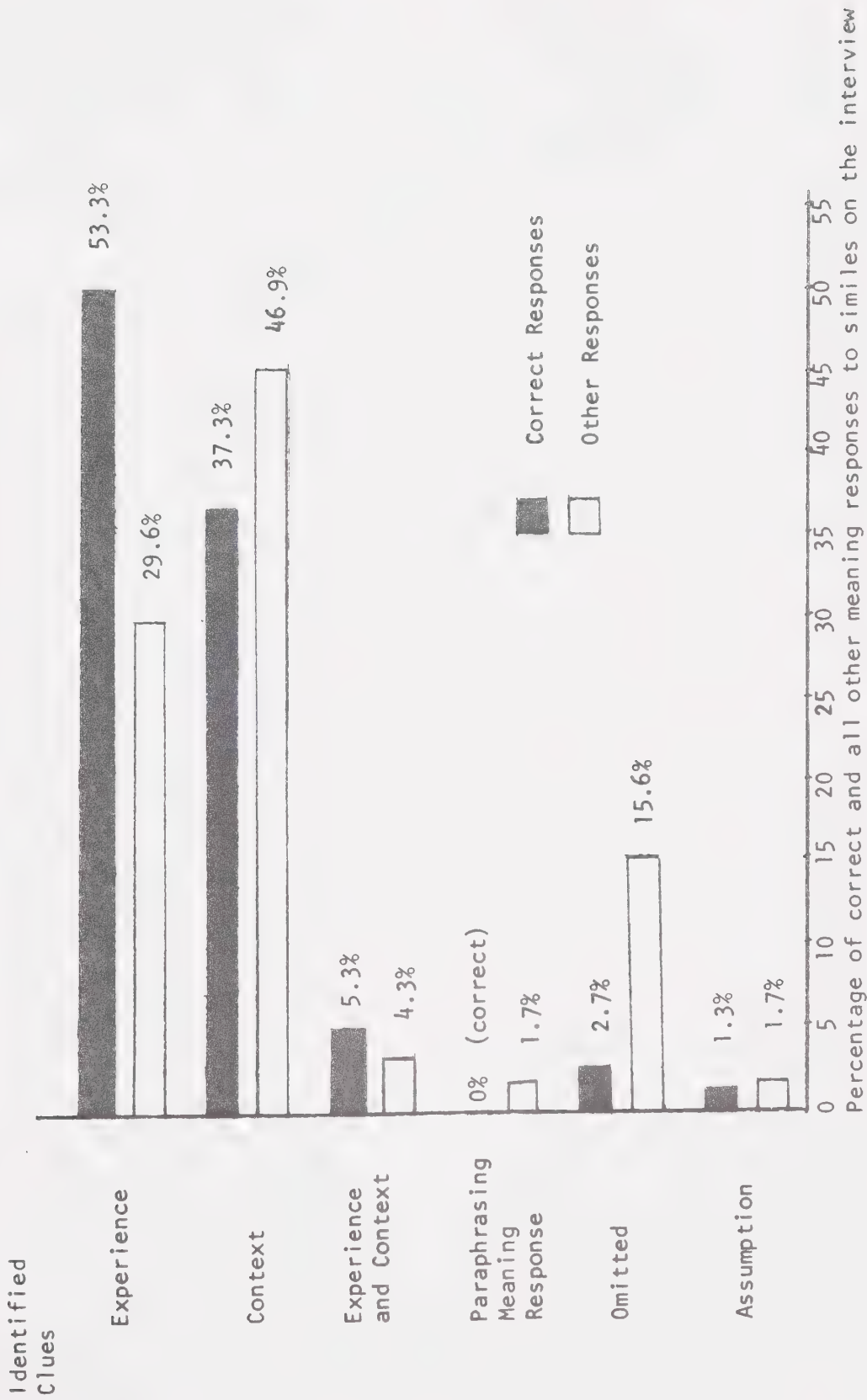


FIGURE 5
THE TYPES OF IDENTIFIED CLUES FOR
MEANING RESPONSES TO SIMILES
ON THE INTERVIEW

Question Six

The students' oral definitions of words or phrases from the similes were examined in order to answer the sixth question, 'For what vocabulary in the similes did the students lack meaning?' Children's responses were classified by the judges as either correct or incorrect. No qualitative measure was included in either classification. The incorrect category included such responses as wrong definition, omission, repetition. The results as indicated by Table XXVIII showed that the students who had given correct meaning responses to the simile also knew the meaning of the vocabulary expressions with the exception of the word "centurion" which was known by only one student. All nineteen students were able to give a correct meaning to the two phrases in item eight of the Interview (Appendix E), but only nine of them gave a correct meaning response for the simile. The difficulty seemed to be caused from the need to relate the three elements, namely, "the poor," "leaves in the storm" and "the twig in a river" with the result that the students had difficulty deciding on a suitable commonality or confused the relationship among the three elements.

Question Seven

This question asked, "What similes evoked feelings stated by the students?" The students' responses on the Interview, when asked to verbalize the feelings that they derived from reading the similes, were inspected. Although all the similes used in the Interview elicited stated feelings, items four and seven evoked the most student responses, eighteen, and items two and three the least, twelve responses. The most common feeling stated for item four was one of an

TABLE XXVIII

FREQUENCY OF CORRECT AND INCORRECT MEANING
RESPONSES TO SELECTED VOCABULARY
FROM SIMILES IN THE INTERVIEW

Simile Item	Student Responses to Simile	Vocabulary Meaning Responses	
		Correct	Incorrect
3	Correct 0	Nearest Tongue of the Birchwoods	Stain
	Other 19	5	14
4	Correct 5	Arena of Lions	
	Other 14	8	6
8	Correct 9	Leaves in the Storm	Twig in a River
	Other 10	10	9
9	Correct 1	Strung Bow	Centurion
	Other 18	4	14
			0
			1
			1
			17

emotional nature, namely, "scared" or "sad." This showed that children probably identified with "the child being thrown into an arena of lions." In item seven the most often stated feeling was one of fear which may show that students had seen or read about wild animals and knew their characteristics. Items two and three, the ones that students found the most difficult to interpret, were also the ones that elicited the least stated feelings. However, although there were no correct meaning responses for these two items, there were twelve stated feeling responses. This may have indicated that the student's reading of the similes had involved not only his intellect but his emotions which was considered by Early (1965, p. 81) as necessary to the appreciation of such language.

Question Eight

An examination of all the students' responses on the Interview was made in order to answer question eight, "Do students use their own similes in their oral responses to questions in an interview situation?" Six of the nineteen students used eighteen similes in their explanations. Two examples are quoted. When giving the meaning of the expression, "the tongue of the birchwoods," one student explained, "... a tongue is kinda' like a stretch of material from your body." Another student when defining the expression, "a strung bow," said that "carrying an arrow on your shoulder would be just like you were carrying the water hose on your shoulder." From these results it was observed that about one-third of the students interviewed used similes based on their experiences, but because of the limited number of similes no other general observations could be made.

SUMMARY

The findings of the formal and descriptive analysis of the data used in the study were reported in this chapter. First, the grade five students' achievement on the Similes Test and Interview were described by total responses and by the distribution of the students' scores. Secondly, the results of the statistical procedures used to test the seven hypotheses were given. Thirdly, the descriptive analysis of selected data was outlined.

CHAPTER VI

SUMMARY, CONCLUSIONS

AND IMPLICATIONS

Students in the upper elementary grades are confronted with similes in their reading materials but little is known about the problems which such figurative expressions may present to them in their reading understanding. Therefore, the purpose of this study was to investigate grade five students' reading understanding of similes.

This chapter will present a brief summary of the study, findings, conclusions, possible implications, suggestions for further research and a concluding statement.

SUMMARY

The student population was all the grade five students in the County of Strathcona, situated on the eastern extremity of the city of Edmonton, Alberta. The test sample of ninety-three students was selected from the test population of 197 in three schools.

The students' reading understanding of similes was assessed using the Similes Test, a multiple-choice test, and an Interview, a free response instrument. In addition, in order to gain information about some of the students' background experiences that may have contributed to their understanding of similes a structured questionnaire was used. These three instruments were designed by the researcher for

this study.

From the test sample, seventy-four students received the Similes Test and nineteen other students were interviewed. Data collected for this study also included the mental ability scores based on the Logge-Thorndike Test and reading ability scores based on STEP.

The data from the students who received the Similes Test were subjected to statistical analyses including Pearson Product Moment Correlation, Stepwise Multiple Linear Regression and One-Way Analysis of Variance which were carried out by the Division of Educational Research Services at the University of Alberta.

In addition, selected data from the results of the Similes Test, Interview and Questionnaire were subjected to further examination in order to gain more information concerning grade five students' reading understanding of similes.

FINDINGS

The findings are summarized with regard to student achievement on both the Similes Test and the Interview; the several aspects of student understanding of similes analyzed statistically; descriptive analysis of selected data.

Student Achievement on Both The Similes Test and Interview

Grade five students showed differences in their reading understanding of similes as measured by the Similes Test and Interview, with 65.3 per cent and 39.5 per cent correct responses respectively. Most students attempted to give a response and very few gave a totally meaningless response. The grouping of the students by correct scores

on the Similes Test indicated that the top three achievement groups had their highest scores in correct scores and their second highest scores in the partial meaning category which indicated the next highest level of understanding. This category was called inappropriate commonality. The bottom two achievement groups had their second highest scores in a partial meaning category called confused relationship which indicated less understanding of the relationship involved than the inappropriate commonality category.

The students in the Interview tended to repeat the simile in whole or part when they were unable to give a correct response. Paraphrasing scores were the second highest to correct scores for the top three achievement groups, whereas repetition were the second highest scores for the lowest two groups.

Statistical Analyses

From the Pearson Product Moment Correlations between selected variables and the students' scores on the Similes Test the strongest correlations were between reading ability, as measured by STEP, the verbal and total mental ability scores, as measured by the Lorge-Thorndike Test and the correct, confused relationship, paraphrasing and incorrect scores on the Similes Test. The correlations between the variables and correct scores were positive while the other correlations were negative.

The Stepwise Multiple Linear Regression indicated that for the correct score the variables of reading ability, as measured by STEP, mental ability, as measured by the total score on the Lorge-Thorndike Test were the most powerful predictors of the correct score.

It was found that together they accounted for almost three-quarters of the variance of the correct scores on the Similes Test. For the other four criterion scores reading ability, as measured by STEP, was one of the most powerful predictors of the scores. In addition, age was another significant variable in predicting two of the partial meaning scores, namely, inappropriate commonality and confused relationship. The total ability score on the Lorge-Thorndike Test was the other variable that contributed significantly to the prediction of paraphrasing and incorrect scores. As the variables did not account for as much of the variance in these scores as in the correct scores it indicated that other possible sources of variance influenced the scores.

The One-Way Analysis of Variance was used to determine the nature of the relationship between the variables and the criterion scores. There were a possible fifteen significant relationships for each variable, except the one indicating the sex of the student, and the five criterion scores. From this analysis and the preceding analyses the hypotheses were upheld or rejected.

Hypotheses. There is no statistically significant relationship between grade five students'

1. total scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C
2. verbal scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C
3. non-verbal scores on the Lorge-Thorndike Intelligence Test, Level 3, Form A or C

4. raw scores on the Sequential Test of Educational Progress, Reading, Form 4A

5. chronological age

6. sex

7. background experiences as measured by the Questionnaire and their:

a. correct scores

b. inappropriate commonality scores

c. confused relationship scores

d. paraphrasing scores

e. incorrect scores

obtained on the Similes Test.

Hypothesis 1. From the fifteen relationships there were nine statistically significant differences between the groups with the low range of total scores and the middle and high range of total scores on the Lorge-Thorndike Test and their scores on the Similes Test. Most of the other six non-statistically significant differences were between the groups of grade five students with the middle and high range of total scores on the Lorge-Thorndike Test and their scores on the Similes Test. Because of the nine statistically significant relationships, Hypothesis 1 was rejected in part.

Hypothesis 2. There were nine statistically significant differences between the groups of grade five students with the low range of verbal scores and the middle and high range of verbal scores on the Lorge-Thorndike Test and their scores on the Similes Test. The other six non-statistically significant differences were mainly between the groups of grade five students with the middle and high

range of verbal scores on the Lorge-Thorndike Test. As a result of the nine statistically significant differences, Hypothesis 2 was rejected in part.

Hypothesis 3. There were eight statistically significant differences between the groups of grade five students with the low range of non-verbal scores and the middle and high range of non-verbal scores on the Lorge-Thorndike Test and their scores on the Similes Test. Most of the other seven non-statistically significant differences were between the groups of grade five students with the middle and high range of non-verbal scores on the Lorge-Thorndike Test. From the statistically significant results, Hypothesis 3 was rejected in part.

Hypothesis 4. Thirteen of the fifteen differences were statistically significant between the three groups of grade five students with the low, middle and high range of raw scores on STEP and their scores on the Similes Test. As a result, Hypothesis 4 was rejected in part.

Hypothesis 5. There were six statistically significant differences between the oldest group of grade five students and the other two groups, the middle age range and the youngest, and their scores on the Similes Test. There were no statistically significant differences between the youngest and middle age range of students. Because of these differences, Hypothesis 5 was rejected in part.

Hypothesis 6. There were no statistically significant differences between the sex of the grade five students and their scores on the Similes Test. Hypothesis 6 was upheld.

Hypothesis 7. There were ten, out of a possible 180, statistically significant differences between three of the thirteen grade five students'

background experiences, as measured by the Questionnaire, and their scores on the Similes Test. The three questions on the Questionnaire were related to frequency of newspaper reading, number of books in the home and frequency of borrowing books from the library. Because of the limited statistically significant differences, Hypothesis 7 was rejected in part.

Descriptive Analysis

The kinds of responses and the characteristics of the highest and lowest scorers on the Similes Test and Interview were examined. The lowest scorers, when compared to the highest scorers, selected on the multiple-choice Similes Test or gave orally on the Interview more of all other types of responses that were not correct. On the Similes Test the highest scorers selected 88 per cent correct responses and the lowest scorers selected 33 per cent. The highest scorers on the Interview gave 65 per cent correct responses and the students with the lowest scores gave 15 per cent correct responses. From comparing the lowest scorers to the highest scorers on both the Similes Test and Interview, the lowest scorers had a mean chronological age of one or two years more. Their mean reading scores on STEP were fifteen or sixteen points lower, and their mean mental ability scores on the Lorge-Thorndike Test ranged from six to twenty-five points less than the highest scorers. On the Questionnaire the lowest scorers showed less responses in the categories indicating the greatest number of books and newspapers read, most books in their homes and most frequent use of the library.

The two items that students had the least difficulty under-

standing were the ones involving comparisons between the categories "animal" and "people" which may have indicated aspects of their background knowledge. The two most difficult items were the ones that demanded that the reader relate several elements within the similes including a "non-concrete" element. They also contained additional figurative expressions and other words for which the students lacked meaning.

On the Interview students used their experiences more to gain the correct meaning of similes. For the partial meaning and incorrect responses, the printed context of the simile was used. Students were unaware of their faulty interpretations and explanations. In over 15 per cent of the other than correct responses, students were unable to verbalize any source for their meaning responses.

The students interviewed who gave correct meanings when defining a word or phrase were also the students who understood the meanings of the similes except for one simile in which there were several elements to be related. All the similes used in the Interview elicited stated feelings from the students even though they had not given a correct meaning for many of the similes. Similes were used in the students' oral responses by approximately one-third of the students interviewed.

CONCLUSIONS

Keeping in mind the limitations of the study as presented in Chapter I, the following conclusions are reached:

1. As there was a wide range in grade five students' reading understanding of similes, it is concluded that there are differences

among students in their understanding of what they read. Since there is insufficient information regarding the author's purpose in using similes and therefore the importance of the reader's understanding to his interpretation and appreciation of literature, it was not possible to conclude whether the range in reading understanding of similes evidenced by this study was acceptable.

2. Because the three groups of grade five students in the middle range and high range of mental ability and the group with the highest reading ability had the greatest understanding of similes, the best predictors of a student's understanding of similes, as measured by the Similes Test, are his reading ability, as measured by STEP, and his mental ability, as measured by the Lorge-Thorndike Test.

3. Since the oldest students in this study had the least reading understanding of similes while the youngest and average age students had almost equal understanding, it is concluded that children who are the average age for their grade or younger have a better understanding generally, of the similes they read, than the older children in the grade.

4. As there were no statistically significant differences between boys' and girls' reading understanding of similes, as evidenced by the results of this study, it was believed that as groups, they have equal reading understanding of similes.

5. There may be a relationship between certain activities related to reading and students' understanding of similes, since the students who read the newspaper most frequently, had fifty or more books in their homes and borrowed books from the library every week, had the best understanding of the similes they read.

6. From the description of students with the least reading understanding of similes, it may be concluded that such students are characterized by having lower reading and mental ability and by being older than most of the other students in their grade. They are also the ones who participate less frequently in reading related activities.

7. Since the students had the greatest difficulty understanding the similes whose syntax demanded that they relate several concepts, especially inanimate ones, and whose word meanings were unknown to them, it is concluded that selected aspects of the structure and vocabulary of certain similes contribute to children's difficulty in interpreting them.

8. Students, in this study, who understood the meaning of similes which they read, were able to verbalize the sources of this meaning, which was most frequently their experiences. As a result of this, it is believed that children who understood the meanings of similes they read could verbally relate their experiences to their reading understanding.

9. A multiplicity of word meanings for the elements in similes is a basic component in the interpretation of the relationships involved in similes, and as vocabulary knowledge aided reading understanding of similes in this study, it is concluded that breadth of vocabulary knowledge is necessary.

10. As lack of verbalized understanding of similes did not prevent the student from stating feelings evoked from reading the similes, it is thought that it is possible for students to gain some appreciation of their reading of similes without being able to state any or limited meaning for the similes.

11. Similes, drawn from the students' experiential background, were used by students in this study to explain similes read. It is concluded that background experiences may contribute not only to reading understanding of similes, but also to their personal use of them in explaining the similes of authors.

IMPLICATIONS

The implications of these findings and conclusions are pertinent to educators and authors:

1. In the light of the findings that most grade five students have some reading understanding of similes, it seems necessary for the educator to develop reading instruction programmes to extend this understanding because of the liberal use of similes by certain authors. To do so, he should be aware both of what the child brings to the situation and what skills the reading of similes demands. In order to predict the student's reading understanding of similes before such programmes are initiated, the student's reading ability and his mental ability scores could be used, as they were found to be the best predictors of his success in interpretation.

2. As there appeared to be little difference in the understanding of similes between the two groups of students with the middle and high ranges of mental ability, it may be implied that the students with the highest mental ability scores need more instruction in reading comprehension skills directly suited to their abilities.

3. Since the student's experiences, specifically reading activities, were related to his ability to understand similes and because the students with the greatest understanding of similes were able to

verbalize the sources of this meaning, frequently their experiences, several implications present themselves. Allowance should be made within the school programme for the student to gain experiences through varied reading activities and also through excursions, classroom visitors and audiovisual aids. All such activities should be integrated into the programme in a meaningful way and the students encouraged to verbalize their understanding in a logical manner which might include discussion groups or formalized debates. As it was seen that students considered repetition responses as suitable, demands should be placed on the student to present his oral communication in both a logical and enlightening manner, and not by merely repeating another individual's responses.

4. From this study it was possible to suggest that selected syntactical and semantic differences among similes affected the child's reading understanding of them. Therefore, instruction could begin with the interpretation of those similes that are the least complex, namely, ones that contain only one comparison between one subject and one vehicle in which the commonality is stated and in which these elements are considered as fitting the "concrete" classification. However, students with higher mental and reading ability could be instructed in the understanding of similes which are more abstract in structure.

5. Because of the differences in reading understanding of similes among the grade five students, it is implied that the communication between author and reader might be improved through the author's greater awareness of the reader's abilities and the kinds of figurative language that he is able to understand and enjoy.

To gain more knowledge of children's understanding of figurative language suggestions are made for research/.

SUGGESTIONS FOR FURTHER

RESEARCH

Several areas for further research are apparent:

1. A study of children's reading understanding of similes using parallel tests, including oral and written multiple-choice, free oral response and free written response formats, is suggested in order to compare children's understanding as evidenced by their differences in oral and written responses, and open and structured responses.

2. In order to assess the characteristics in various kinds of similes that contribute to student understanding of similes, research instruments could be developed that probed his reading understanding as it relates to:

- a. the syntax of the elements, including subject of similes, commonality, vehicle and link

- b. the classification of the elements as concrete and non-concrete

- c. the inclusion or exclusion of a stated commonality.

Students evidencing the greatest difficulty in understanding similes could be interviewed in order to ascertain possible reasons for their lack of reading understanding of specific similes.

3. Students' understanding of similes at various grade levels could be studied in order to ascertain any developmental aspects to the reading understanding of similes.

4. A study of children's unsolicited use of similes in both their oral and written language is suggested. Then a comparison could be made between these expressions and those used by authors to determine if there are syntactic and semantic differences between children's similes and authors' similes.

5. The purpose in the use of similes from the author's point of view could be examined in order to determine the understanding needed by the reader to interpret and appreciate the books he reads. The teacher would then be aware of the emphasis that instruction in the interpretation of similes should receive.

6. As similes are only one type of figure of speech, it is recommended that similar studies to those described and to the one undertaken by this researcher be undertaken with respect to other figurative expressions.

CONCLUDING STATEMENT

This study showed that students in grade five attempted to understand the similes they read and that when they gave a free oral response in an interview they showed less understanding than the students who responded on a structured multiple-choice test. Their background experiences, especially those of a reading nature, aided their understanding.

Since similes are present in the literature which children read, more knowledge is needed about their reading understanding of such language including the possibility that such understanding varies from grade to grade.

In addition, it is necessary to know the role that interpretation of similes plays in the understanding and appreciation of literature.

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APPENDICES

APPENDIX A

ANNOTATED BIBLIOGRAPHY OF

NINE BOOKLISTS

ANNOTATED BIBLIOGRAPHY OF NINE BOOKLISTS

American Lists

Gover, Mary. (ed.). The Elementary School Library Collection. Fourth Edition and Fourth Edition Supplement. Newark: Bro-Dart Foundation, 1968.

This list was compiled as the minimum collection of titles for an established elementary school library by fifty American school librarians and the members of the American Library Association's Advisory Committee.

Books were selected for literary quality, appeal to children, excellence in format, authenticity of content, and suitability for the range of reading abilities in elementary schools.

Books were considered from the section, "Fiction," classified as suitable for grades four, five and six.

Hodges, Elizabeth D. (comp.). Books for Elementary School Libraries. Chicago: American Library Association, 1969.

This list of books was recommended as a foundation for a first year school library, or for additions to existing collections. Books were judged on their suitability of subject matter, conceptual level, style, and format.

Titles in the section "Stories for Intermediate Grades" were considered in this study.

. Children's Books Too Good to Miss. Chicago: American Library Association, 1969.

The list was compiled by a group of specialists who, having worked with children and children's books over several years, selected books written recently and old books which they considered every child should be exposed to and helped to enjoy because of their literary quality, contribution to the child's wisdom or merriment, or appreciation of beauty. Books considered were those from the section "Fiction" for children, ages nine, ten and eleven.

Let's Read Together: Books for Family Enjoyment. Second Edition. Chicago: American Library Association, 1964.

Books were selected and annotated by a committee of the National Congress of Parents and Teachers and the Children's Services Division, American Library Association. They were considered suitable for family purchase and enjoyment.

Books suggested as suitable for ages nine to eleven were considered. Fiction or non-fiction categories were established through use of the other booklists.

Notable Children's Books. Published 1940-1959. Chicago: American Library Association, 1966.

Criteria for selection of books included creativity, clarity and style of writing, excellence of illustration, harmony between text and illustration, appropriateness for the reader of the subject and treatment, and acceptance by children.

Books were not classified as fiction or non-fiction, or by level. Books were included in this study by comparison with lists to determine if they were fiction, and if suitable for grades four to six.

Scheer, Rachel, and Estelle A. Fidell. (eds.). Children's Catalogue. Eleventh Edition. Wilson, 1966.

This list of books selected by librarians represented books which children have widely read and enjoyed in schools and public libraries for children. Books considered eligible were those labelled "Fiction, grades four to six," or, if such information were unavailable, through comparison with other booklists.

Stragow, Joan. (comp.). Best Books for Children. Tenth Edition. New York: Bowker, 1969.

This annually revised list of 4,000 children's books has titles added, retained or deleted, dependent on popularity with readers, written published reviews, and timeliness of the book's subject.

Books included in this study were those suggested as suitable for grades four, five and six.

Canadian Lists

Bradshaw, Marguerite. (ed.). Books for Boys and Girls. Fourth Edition. Toronto: Ryerson Press, 1966.

Marguerite Bradshaw, head of the boys' and girls' services, Toronto Public Library, selected 2,000 books published in the U. S. A., Canada and Great Britain as a basic list of books for children's public libraries in Toronto.

From the books listed in the section entitled "Stories," the ones considered suitable for grades four, five and six were selected by consulting the other booklists.

Basic Booklist for Canadian Schools. Elementary Division. Revised Edition. Ottawa: Canadian School Library Association, 1968.

This list was compiled by a Committee of the Canadian School Library Association as a guide for initial purchase of 1067 books for elementary school libraries.

Books selected were those classified as fiction and suitable for grades four, five and six.

APPENDIX B

BIBLIOGRAPHY OF TWENTY CHILDREN'S LITERATURE

BOOKS USED IN CONSTRUCTION

OF SIMILES TEST

BIBLIOGRAPHY OF TWENTY CHILDREN'S LITERATURE
BOOKS USED IN CONSTRUCTION
OF SIMILES TEST

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APPENDIX C

SIMILES TEST USED IN

PILOT STUDY

SIMILES TEST USED IN PILOT STUDY

Directions for Teachers Administering the Test

READ ALOUD - To-day we are going to see how well you are able to get the meanings of groups of underlined words, called similes.

First you will be given a group of words containing a simile. Each will be followed by five (5) answers. The five answers explain the simile, one of these answers will be the meaning that best explains the underlined words. You are to select one (1) answer in each question.

Look at Sample A. Follow along as I read. (Teacher reads Sample A)

The words called a simile say, "The wind carried a sound like a train puffing uphill."

Now look at the five answers. Which one of the five answers has the same or nearly the same meaning as the simile?

Possibilities

1. If students answer A, C, D or E say "No, that is not the correct answer. Try again."

2. If students answer B say, "Yes, answer B is the correct answer since it contains the same or nearly the same meaning as the simile."

Now look at Sample B. Follow along as I read. (Teacher reads Sample B)

The simile is "the yellow flowers shine like gold."

Which one of the five answers has the same or nearly the same meaning?

Possibilities

1. If students answer A, B, C or E say "No, that is not the correct answer. Try again."

2. If the students answer D say, "Yes, answer D is the correct answer since it contains the same or nearly the same meaning as the simile."

For the similes in this test you are to select from the five answers provided for each simile, the one that you think has the same or nearly the same meaning as the simile has in the group of words in which it is presented. Mark the space on your answer sheet that has the same letter as the answer you select.

THIS TEST IS NOT TIMED SO RELAX AND
DO THE BEST YOU ARE ABLE

SIMILES TEST

DIRECTIONS

In each question you are to pick only one answer: The one that has the same or nearly the same meaning as the underlined words. You are to fill in the space on the answer sheet that has the same letter as is in front of the answer you choose. YOU ARE NOT TO WRITE OR MARK ON THIS BOOKLET. Now follow the directions given to you by the teacher.

SAMPLE A

... At the every center was a small black waterhole. The wind, blowing from the waterhole toward them, carried a sound like a train puffing uphill.

- A. A train can puff going up a hill in the wind.
- B. The wind blew hard in puffs.
- C. They could not breathe.
- D. The wind and train go fast.
- E. A train makes a noise.

SAMPLE B

... when the hot sun is shining down again, and he says good-night to the mountains, and they all turn on fire, and the yellow flowers shine like gold, then, you will see, it will be bright and beautiful for you again.

- A. They grow out of the ground.
- B. They are flowers.
- C. They are made of money.
- D. They are a bright orange color.
- E. They are worth a lot of money.

QUESTIONS

1. ... the thing that made many of the trees seem spooky was the fact that they were draped and festooned with matted honeysuckle vines, so that they looked less like trees than like great shawled figures, stooping, or like sinking vessels wrapped in their sails.
 - A. The trees were bent people and sinking ships.
 - B. The trees were covered and weighted down by the vines.
 - C. The people were bent and the ships were sinking.
 - D. It was winter in the forest.
 - E. The trees were not able to move.

2. ... I've had the feeling that this playground is like a little world, the kind of nice world we'd all like to live in. Children of different backgrounds, different colors, and different religions all play together.
 - A. A variety of children play together in this playground.
 - B. This playground has sand in it.
 - C. The world is little.
 - D. This playground has toys in it.
 - E. This playground is a small globe.

3. Jackie saw that small knots of zebra had gathered like pretty pebbles in the lee of crumbling cliffs.
 - A. The animals gathered pebbles on the cliff.
 - B. Groups of the pretty animals stayed close to each other for safety.
 - C. The animals were pretty in their groups.
 - D. There were pebbles where the animals gathered.
 - E. There were pretty pebbles on the cliff.

4. ... Suddenly he remembered the flood of sunset light in his sleeping-cell at Calleva, that evening when Esca and Cub and Cottia had come to him in his desperate need. He called it up now, like golden water, like a trumpet call, the Light of Mithras. He hurled it against the darkness, forcing it back --- back --- back.
 - A. Water and trumpets make a noise.
 - B. He played in a band.

- C. He remembered the gold sunset.
D. He yelled loudly.
E. His memory of the sunset was clear.
5. ... Gideon used to take her [the snail] out and put her down to eat on the grass; then a head with two horns like a little cow came out one side of the shell and a small curved tail at the other; the tail left a smeary silvery trail like glue.
- A. Some glue.
B. A mark.
C. A sticky grey mark.
D. A white mark.
E. A glue mark.
6. ... They [the buildings] are fashioned of hard-burned little bricks, red, with black ends, so that the walls looked like a chessboard upon a great scale.
- A. The bricks make a red and black design.
B. Walls are painted.
C. A chessboard is big.
D. The walls have men on them.
E. A game is played on the walls.
7. ... There in the mirror-surely, oh surely, it was a face! A beautiful face, pale as moonlight ...
- A. A bright face.
B. A light from the moon.
C. A face in the moon.
D. A bucket-shaped face.
E. A lovely, soft, white face.
8. The archeologist craned forward like an ostrich.
- A. He flew.
B. He can dig in the ground.
C. He was a big bird.
D. He built houses.
E. He stretched his neck forward.

9. ... it [the house] had a flight of wooden steps leading up to a porch, which sagged like the brim of a hat.
- A. A hat has an edge.
 - B. The porch is the border of the house.
 - C. The porch was pretty.
 - D. The porch is part of a hat.
 - E. The porch was bent down.
10. A flock of helmeted guinea fowl trotted down the ridges of the saltlick, heads bobbing, legs twinkling, chattering away like children on an outing.
- A. Children go on trips.
 - B. Hens talk.
 - C. Hens and children talk to each other.
 - D. The hens were running away.
 - E. The hens made a noise all the time.
11. ... There were mother baboons with beetle brows and up-curling tails like whips, ...
- A. Their tails have been curled.
 - B. Their tails are used to hit.
 - C. Their tails are rolled up.
 - D. Their tails are nine feet long.
 - E. Their tails are very long and thin.
12. In the huge swinging maple tree the oriole stopped his work from time to time and sang. The house wrens sang, too, but their song seemed more in the nature of conversation, and in the woods a certain red cardinal sounded like a little bottle being filled up, up, up with some clear liquid.
- A. The bird and water are red.
 - B. The bird makes his song by putting water in a bottle.
 - C. The bird's song is a rippling noise.
 - D. A small jar had water put in it slowly.
 - E. The bird drank a lot of water.

13. They were flinging brushwood bundles into the ditch to form causeways: swarming over, they had poles to scale the ramparts, but in the dark nothing of that could be seen, only a flowing up and over, like a wave of ghosts.
- A. Ghosts are white.
 - B. They moved without any help.
 - C. They were ghosts in the water.
 - D. Ghosts come and go away.
 - E. They moved quietly without stopping.
14. The ponies were fairly fresh, but both fugitives knew that in the open it was only a matter of time before they were ridden down by the better-mounted tribesmen - pulled down by the yelling hounds as by a pack of wolves.
- A. The dogs were really wolves.
 - B. The dogs made a noise.
 - C. The dogs have short ears.
 - D. The dogs were fierce
 - E. The dogs were in a group.
15. He was a small Chagga [member of a tribe] with fists like hams, a round polished face, and a perpetual grin.
- A. His fists are big and hard.
 - B. He hurt his fits.
 - C. Fists are hands.
 - D. His fists are red.
 - E. His fists are made of ham.
16. The four were loose in their stable, and they came to him almost like dogs to sniff inquiringly at his breast and outstretched hands; four superbly matched black chariot ponies.
- A. They were curious.
 - B. Dogs like to smell things.
 - C. They have cold noses.
 - D. They are domestic animals.
 - E. Dogs chased the ponies away.

17. "This is the season of the spider," Mr. Payton said, and it was certainly true. Everywhere tossing among the reeds, were little beaded cloths of web, and now and then they came on a larger kind, each wearing a dressy black-and-yellow spider and marked with a silky track as if the artist had signed his name.
- A. The spider was stuck in his web.
 - B. The spider made his own special tail.
 - C. The web was made of silk.
 - D. The web had the spider's name on it.
 - E. The web was curved lines.
18. ... the horn sounded its high, clear note; and before the echoes had died among the hills, the sealskin curtain was flung back, its bronze discs clashing like cymbals.
- A. The metal pieces are plates.
 - B. The metal pieces were used in a band.
 - C. The metal pieces were brown and round.
 - D. The metal pieces hitting each other made a noise.
 - E. The metal pieces are hit.
19. An when they found that I was a Roman soldier, they did not greatly care. It was not the first of my kind to desert to the tribes; and Murna spoke for me, like a lioness whose cub is threatened.
- A. Murna was strong.
 - B. Murna had long hair.
 - C. Murna was my mother.
 - D. I cannot talk.
 - E. Murna protected me by speaking.
20. They [the soldiers] swung in their tracks, towards the nearest tongue of the birch woods that were spreading like a stain through the ragged mist, but even as they did so, the signal cry rose from among the golden trees in answer.
- A. The woods were sick.
 - B. The sap was coming out of the trees.
 - C. A stain was in the mist.
 - D. The woods were painted.
 - E. The woods began to be seen.

21. ... all the animals were on the move, faintly visible from the train ...

Andrew, watching through the window grew pensive. He understood why the bushbaby could not be released. It would be like throwing a small child into an arena of lions.

- A. It is cruel to put the little animal back in the jungle.
- B. The little animal is a small lion.
- C. The train ran over the little animal.
- D. A little child can live with a group of lions.
- E. The other animals will look at the little animal.

22. Jane observed, too, how like a tiny ape's was the bright-eyed, snubby face of Monkey [a toy soldier].

- A. Monkey had long brown hair.
- B. Monkey came from the jungle.
- C. Monkey's head was made from an animal.
- D. Monkey had a face.
- E. Monkey had a little face and bright eyes.

23. The bushbaby was endowed by nature with a variety of highly tuned senses. His ears moved like radar scoops, catching every small sound.

- A. His ears stuck out.
- B. He helped the police.
- C. His ears were round.
- D. He heard every sound.
- E. He has ears.

24. Peter, however, had never given his arm to anyone in his life. Clara put her's in his, but he kept hiw own hanging down straight beside him like a stick.

- A. A stick is straight.
- B. He had a long, thin arm.
- C. He cut his arm.
- D. He had a wooden arm.
- E. He did not bend his arm.

25. ... the Fisher leapt back and sideways to avoid his (swordsman's) thrust, then whirled about and ran for his life, gathering his net for another cast as he ran, ... the Fisher whirled about and flung once more. The net whipped out like a dark flame; it licked round the running swordsman, so intent on his chase that he had forgotten to guard for it; the weight carried the deadly folds across and across again, and a howl burst from the crowd as he crashed head-long and rolled over, helplessly meshed as a fly in a spider's web.
- A. A spider caught him.
 - B. A spider caught a fly.
 - C. He was flying.
 - D. He could not escape.
 - E. He could see through the holes.
26. For one confused moment he thought that it was still that other waking and he had dreamed in a circle; and then, as his sight and hearing cleared somewhat, he saw Esca standing just behind the surgeon, and a huge shadow in the doorway that could only be Uncle Aquila, and heard the despairing howls of Cub shut in the storeroom: and came back to the present like a swimmer breaking surface.
- A. He was moving his arms.
 - B. Swimming is fun.
 - C. A swimmer hits the top of the water.
 - D. Now he can swim.
 - E. He came back to the present sharply.
27. The old man thought of the world as evil. He is like a hermit in the middle of the city.
- A. The old man has no contact with others.
 - B. He is the only person in the middle of the city.
 - C. A hermit lives in the middle of the city.
 - D. The old man has a beard.
 - E. He bakes cookies in the town.
28. He lifted it [the eagle standard] from its place, realizing as he did so that the last Roman hand to touch the stained and battered shaft had been his father's. An odd, potent link across the years, and he held to it as to a talisman, as he set about freeing the Eagle from its staff.
- A. He held an eagle's foot.

- B. He held it for good luck.
 - C. He was a tall man.
 - D. The eagle flew away.
 - E. It was in his hand.
29. She [the girl] gazed for long seconds at the darkening sky, hearing her thoughts like strayed sheep.
- A. She thought about the wandering sheep.
 - B. She was counting sheep in her sleep.
 - C. She could not hear.
 - D. The sheep were straying.
 - E. She tried to put her thoughts together.
30. Broomtail's [the horse's] eyes were as bright as sunlight.
- A. His eyes were sparkling.
 - B. The sunlight shone in his eyes.
 - C. The sunlight is bright.
 - D. He looked at the sunlight.
 - E. His eyes were burning.
31. The arrow was loosed, spent, yet the target hung in the air as still as though it were made of steel.
- A. It is the same size.
 - B. It was dead.
 - C. It was made of iron.
 - D. It was in the air.
 - E. It did not move.
32. There were dark patches like islands in the river, and the girl saw that these were the tops of trees. Floating in the branches were the bloated carcasses of animals, legs stiff and pointing to the sky, lifeless as up-turned sofas.
- A. The dead animals **were** helpless.
 - B. The animals were stuffed.
 - C. The animals were used for furniture.
 - D. Couches floated to the sky.
 - E. The couch was turned over.

33. ... it [New York] has many churches with great big spires; and everyone is of gold; and when the sun comes up in the morning, they look like golden sewing needles.
- A. Needles are used for sewing.
 - B. They are worth a lot of money.
 - C. They shine and are pointed.
 - D. Needles are gold.
 - E. They are solid gold.
34. By degrees the dancing mania seemed to seize upon all the other pieces of furniture ... In short, all the movables got in motion, capering about; pirouetting, hands across, right and left, like so many devils, ...
- A. There are many devils.
 - B. Devils and furniture danced together.
 - C. The furniture went mad.
 - D. The furniture was moved away.
 - E. The furniture danced a wild dance.
35. Then he [the pony] heard a long, sad cry. It was the train going across the plains. Black smoke waved like a tail behind it.
- A. The smoke waved its tail.
 - B. The smoke was black and soft.
 - C. The smoke moved back and forth.
 - D. The smoke is black.
 - E. The tail is burning.
36. ... The minute my back was turned, she pushed her way out [of the crowd].
"She was just like a wild animal," a woman in the store said, "She knocked me over."
- A. She was violent.
 - B. She turned into a horse.
 - C. She was strong.
 - D. She was not a tame animal.
 - E. An animal can be wild.

37. Then the littler ones [children] shrieked and capered and danced in the white flash of the driving rain. Thirsty, they lifted open-mouthed faces to the sky like hungry nestlings that hear the rustling return of the mother bird.
- A. They wanted to feed the birds.
 - B. Their mouths were open to the sky.
 - C. They wanted to drink the rain as it fell.
 - D. They wanted something to eat.
 - E. Their mouths were open waiting for the mother bird.
38. ... Mary Humboldt playing on the harp or Mr. Vogelhart see-sawing away on his violin. That wasn't funny, only boring, and Baby-Belle said it caused her to itch all over like chicken pox.
- A. It is a disease.
 - B. The disease made her scratch.
 - C. She like their playing.
 - D. She was restless.
 - E. She was hot.
39. He led the bull to his mother who seized it by the head, which she twisted over her skinny thigh. Then she took a firm grip on the bull's neck, so that the jugular vein swelled like a damp rope.
- A. The rope got wet.
 - B. Blood was coming from the vein.
 - C. She pulled on the rope.
 - D. The vein was made of wet string.
 - E. The vein stuck out.
40. Dead leaves follow the wind and have no resting place during a storm. The twig that has fallen into the river goes where the stream carries it. The poor are like the leaves in the storm or the twig in the river: plaything of forces which they do not control, which they sometimes do not even understand.
- A. Leaves blow in a storm and twigs float in a river.
 - B. Poor people have no place to live and are pushed around by others.
 - C. Poor people walk in the leaves and in the river.
 - D. Poor people are thin and do not have food to eat.
 - E. Poor people float in the air and in the river.

41. ... It was an evening coloured like a dove's breast; a little wind feathered the shining water, and far out on the dreaming brightness many scattered islands seemed to float lightly as sleeping sea-birds.
- A. The birds floated on the islands.
 - B. The islands do not move.
 - C. Birds sleep all the time.
 - D. The islands floated gently.
 - E. Islands are here and there.
42. The wooden soldiers stood exactly as he had seen them when Jane interrupted. They hadn't moved a tenth of an inch. They were as dead as ninepins. They had frozen again.
- A. There were nine pins.
 - B. They did not move at all.
 - C. Jane shot the soldiers.
 - D. There were nine, tall soldiers.
 - E. There were nine, dead soldiers.
43. He [the bushbaby] was like a gnome, hopping always in close company with her, or curling up in a ball under her shirt. His species was known to Africans as "the tree dwarfs" ...
- A. He was an animal.
 - B. He was a little man.
 - C. He was getting small.
 - D. He was little and moved easily.
 - E. He was a guard.
44. ... There must be a million of them [frogs] in the swamp ...
The swamp, when they came in sight of it, was stirring in the wet wind like cats' fur.
- A. Cats have fur.
 - B. The swamp had long, wet grass.
 - C. Frogs are in the cat's fur.
 - D. The cat's fur was moving in the swamp.
 - E. The swamp was moving all over.

45. He felt the Duty Centurion grow tense as a strung bow beside him. The moments crawled by, the silence became a physical pressure on his eardrums.
- A. Bows have strings.
 - B. The commander was stiff.
 - C. It's fun to shoot arrows.
 - D. The commander was bent over.
 - E. The commander used a bow and arrow.
46. For one flashing instant there rose in him the exultancy of speed, the surge and splendour that he had once thought never to know again. The instant passed, swift as the darting flight of a kingfisher.
- A. The bird flies quickly.
 - B. The bird's flights are short.
 - C. The dart went past him.
 - D. The moment passed very quickly.
 - E. The moment was important.
47. ... there appeared a girl with a solemn sunburned baby on her hip. She was tall, as were most British women, and carried herself like a queen.
- A. She was a ruler.
 - B. She was straight.
 - C. She was bent over.
 - D. She wore jewels.
 - E. She walked by herself.
48. ... THEN Mrs. Brace-Gideon would come sailing in like a battleship and start to sing.
- A. She can sail a ship.
 - B. She can float.
 - C. She won the battle.
 - D. She was large and powerful.
 - E. The ship is used in war.

49. Off they [the boys] went, bucking and yelling, as wild as Tuscarora Indians.
- A. They wanted to fight.
 - B. They road horseback.
 - C. Indians are wild.
 - D. They were excited.
 - E. They shot bows and arrows.
50. Through experience he now felt sure that most of the wild animals would slip away like shadows from his path.
- A. You can see through the animals.
 - B. The animals are quick and quiet.
 - C. Shadows move.
 - D. The animals are dead.
 - E. The animals' shadows moved.

THE END

APPENDIX D

SIMILES TEST

SIMILES TEST

Directions for Teachers Administering the Test

READ ALOUD - To-day we are going to see how well you are able to get the meanings of groups of underlined words, called similes.

First you will be given a group of words containing a simile. Each will be followed by five (5) answers. The five answers explain the simile, one of these answers will be the meaning that best explains the underlined words as they are used in the passage. You are to select one (1) answer in each question.

Look at Sample A. Follow along as I read. (Teacher reads Sample A)

The words called a simile say, "The wind carried a sound like a train puffing uphill."

Now look at the five answers. Which one of the five answers has the same or nearly the same meaning as the simile?

Possibilities

1. If students answer A, C, D or E say, "No, that is not the correct answer. Try again."

2. If students answer B say, "Yes, answer B is the correct answer since it contains the same or nearly the same meaning as the simile."

Now look at Sample B. Follow along as I read. (Teacher reads Sample B)

The simile is "the yellow flowers shine like gold."

Which one of the five answers has the same or nearly the same meaning?

Possibilities

1. If students answer A, B, C or E say, "No, that is not the correct answer. Try again."

2. If students answer D say, "Yes, answer D is the correct answer since it contains the same or nearly the same meaning as the simile."

For the similes in this test you are to select from the five answers provided for each simile, the one that you think has the same or nearly the same meaning as the simile in the group of words which it is presented. Mark the space on your answer sheet that has the same letter as the answer you select.

THIS TEST IS NOT TIMED SO RELAX AND
DO THE BEST YOU ARE ABLE

SIMILES TEST

DIRECTIONS

In each question you are to pick only one answer: The one that has the same or nearly the same meaning as the underlined words. You are to fill in the space on the answer sheet that has the same letter as is in front of the answer you choose. YOU ARE NOT TO WRITE OR MARK ON THIS BOOKLET. Now follow the directions given to you by the Teacher.

SAMPLE A

... At the very center was a small black waterhole. The wind, blowing from the waterhole toward them, carried a sound like a train puffing uphill.

- A. A train can puff going up a hill in the wind.
- B. The wind blew hard in puffs.
- C. They could not breathe.
- D. The wind and train go fast.
- E. A train makes a noise.

SAMPLE B

... when the hot sun is shining down again, and he says good-night to the mountains, and they all turn on fire, and the yellow flowers shine like gold, then, you will see, it will be bright and beautiful for you again.

- A. They grow out of the ground.
- B. They are flowers.
- C. They are made of money.
- D. They are a bright orange color.
- E. They are worth a lot of money.

ANSWER KEY

- 1 Correct response
- 2 Inappropriate commonality response
- 3 Confused relationship response
- 4 Paraphrasing response
- 5 Incorrect response

QUESTIONS

1. He was a small Chagga [member of a tribe] with fists like hams, a round polished face, and a perpetual grin.
 - 1 A. His fists are big and hard.
 - 5 B. He hurt his fists.
 - 4 C. Fists are hands.
 - 2 D. His fists are red.
 - 3 E. His fists are made of ham.

2. And when they found that I was a Roman soldier, they did not greatly care. It was not the first of my kind to desert to the tribes; and Murna [a tribesman's wife] spoke for me, like a lioness whose cub is threatened.
 - 2 A. Murna was strong.
 - 5 B. Murna had long hair.
 - 3 C. Murna was my mother
 - 4 D. I cannot talk
 - 1 E. Murna protected me by speaking.

3. ... Suddenly he remembered the flood of sunset light in his sleeping-cell at Calleva, that evening when Esca and Cub and Cottia had come to him in his desperate need. He called it up now, like golden water, like a trumpet call, the Light of Mithras. He hurled it against the darkness, forcing it back --- back --- back.
 - 4 A. Water and trumpets make a noise.
 - 5 B. He played in a band.

- 2 C. He remembered the orange sunset.
 3 D. He remembered the water and the trumpet.
 1 E. His memory of the sunset was clear and bright.
4. ... There in the mirror-surely, oh surely, it was a face! A beautiful face, pale as moonlight ...
- 2 A. A bright face.
 4 B. The light of the moon.
 3 C. A face in the moon.
 5 D. A bucket-shaped face.
 1 E. A lovely, soft, white face.
5. ... It [the house] had a flight of wooden steps leading up to a porch, which sagged like the brim of a hat.
- 4 A. A hat has an edge.
 2 B. The porch is the border of the house.
 5 C. The porch was pretty.
 3 D. The porch is part of a hat.
 1 E. The porch was bent down.
6. A flock of helmeted guinea fowl trotted down the ridges of the salt-lick, heads bobbing, legs twinkling, chattering away like children on an outing.
- 4 A. Children go on trips.
 2 B. Hens talk.
 3 C. Hens and children talk to each other.
 5 D. The hens were running away.
 1 E. The hens made a noise all the time.
7. They were flinging brushwood bundles into the ditch to form causeways: swarming over, they had poles to scale the ramparts, but in the dark nothing of that could be seen, only a flowing up and over, like a wave of ghosts.
- 5 A. Ghosts are white.
 2 B. They move without any help.
 3 C. They ~~were~~ ghosts in the water.
 4 D. The waves are white ghosts.
 1 E. They moved quietly without stopping.

8. The ponies were fairly fresh, but both fugitives knew that in the open it was only a matter of time before they were ridden down by the better-mounted tribesmen - pulled down by the yelling hounds as by a pack of wolves.
- 3 A. The dogs were really wolves.
 - 4 B. The wolves are in a group.
 - 5 C. The dogs have short ears.
 - 1 D. The barking dogs were fierce.
 - 2 E. The dogs were in a group.
9. The four were loose in their stable, and they came to him almost like dogs to sniff inquiringly at his breast and outstretched hands; four superbly matched black chariot ponies.
- 1 A. The ponies were curious.
 - 4 B. Dogs like to smell things.
 - 3 C. The ponies sniff at the dogs.
 - 2 D. They are domestic animals.
 - 5 E. The dogs were lost.
10. ... the horn sounded its high, clear note; and before the echoes had died among the hills, the sealskin curtain was flung back, its bronze discs clashing like cymbals.
- 5 A. The metal pieces were plates.
 - 3 B. The metal pieces were used in a band.
 - 2 C. The metal pieces were brown and round.
 - 1 D. The metal pieces hitting each other made a noise.
 - 4 E. The metal pieces were on the curtain.
11. They [the soldiers] swung in their tracks, towards the nearest tongue of the birch woods that were spreading like a stain through the ragged mist, but even as they did so, the signal cry rose from among the golden trees in answer.
- 5 A. The woods had a disease.
 - 2 B. The sap was coming out of the trees.
 - 4 C. The trees were growing.
 - 3 D. The painted woods were seen in the mist.
 - 1 E. The woods began to be seen.

12. ... all the animals were on the move, faintly visible from the train

Andrew, watching through the window [of the train], grew pensive. He understood why the bushbaby could not be released. It would be like throwing a small child into an arena of lions.

- 1 A. It is cruel to put the little animal back in the jungle.
- 3 B. The little animal is a small lion.
- 5 C. The train ran over the little animal.
- 4 D. A little child can live with a group of lions.
- 2 E. The other animals will look at the little animal.

13. The bushbaby was endowed by nature with a variety of highly tuned senses. His ears moved like radar scoops, catching every small sound.

- 2 A. His ears stuck out.
- 5 B. He helped the police.
- 3 C. His ears were round.
- 1 D. His ears picked up every sound.
- 4 E. He has ears.

14. Peter, however, had never given his arm to anyone in his life. Clara put her's in his, but he kept his own hanging down straight beside him like a stick.

- 4 A. A stick is straight.
- 2 B. He had a long, thin arm.
- 5 C. He cut his arm.
- 3 D. His arm was made of wood.
- 1 E. He did not bend his arm.

15. ... the Fisher leapt back and sideways to avoid his [the swordsman's] thrust, then whirled about and ran for his life, gathering his net for another cast as he ran, with the young swordsman hard behind him. ... the Fisher whirled about and flung once more. The net whipped out like a dark flame; it licked round the running swordsman, so intent on his chase that he had forgotten to guard for it; the weight carried the deadly folds across and across again, and a howl burst from the crow as he crashed headlong and rolled over, helplessly meshed as a fly in a spider's web.

- 3 A. A spider caught him.
- 4 B. A spider caught a fly.

- 5 C. He was trying to fly.
 1 D. He could not escape from the net.
 2 E. He could see through the holes in the net.
16. She [the girl] gazed for long seconds at the darkening sky, herding her thoughts like strayed sheep.
 3 A. She thought about the wandering sheep.
 2 B. She had a lot of thoughts in her head.
 5 C. She could not hear.
 4 D. The sheep were straying.
 1 E. She tried to put her thoughts together.
17. Broomtail's [the horse's] eyes were as bright as sunlight.
 1 A. His eyes were sparkling.
 3 B. The light shone in his eyes.
 4 C. The sunlight is bright.
 5 D. He looked at the sunlight.
 2 E. His eyes were burning.
18. There were dark patches like islands in the river, and the girl saw that these were the tops of trees. Floating in the branches were the bloated carcasses of animals, legs stiff and pointing to the sky, lifeless as upturned sofas.
 1 A. The dead animals were helpless.
 2 B. The animals were stuffed.
 3 C. The animals were used for furniture.
 5 D. Couches floated to the sky.
 4 E. The couch was turned over.
19. ... It [New York] has many churches with great big spires; and everyone is of gold; and when the sun comes up in the morning, they look like golden sewing needles.
 5 A. Needles are used for sewing.
 2 B. They are worth a lot of money.
 1 C. They shine and are pointed.
 4 D. Needles are gold.
 3 E. They are solid gold.

20. Then he [the pony] heard a long, sad cry. It was the train going across the plains. Black smoke waved like a tail behind it.
- 3 A. The smoke waved its tail.
 - 2 B. The smoke was black and soft.
 - 1 C. The smoke moved back and forth.
 - 4 D. The smoke is black.
 - 5 E. The tail is burning.
21. ... The minute my back was turned, she pushed her way out [of the crowd].
"She was just like a wild animal," a woman in the store said,
 "She knocked me over."
- 1 A. She was powerful and violent.
 - 5 B. She turned into a horse.
 - 2 C. She was strong.
 - 3 D. She was not a tame animal.
 - 4 E. An animal can be wild.
22. Then the littler ones [children] shrieked and capered and danced in the white flash of the driving rain. Thirsty, they lifted open-mouthed faces to the sky like hungry nestlings that hear the rustling return of the mother bird.
- 5 A. They wanted to feed the birds.
 - 4 B. Their mouths were open to the sky.
 - 1 C. They wanted to drink the rain as it fell.
 - 2 D. They wanted something to eat.
 - 3 E. Their mouths were open waiting for the mother bird.
23. ... Mary Humboldt playing on the harp or Mr. Vogelhart sea-sawing away on his violin. That wasn't funny, only boring and Baby-Belle said it caused her to itch all over like chicken pox.
- 4 A. It is a disease.
 - 3 B. The disease made her scratch.
 - 5 C. She liked their playing.
 - 1 D. She was restless.
 - 2 E. She was hot.

24. He led the bull to his mother who seized it by the head, which she twisted over her skinny thigh. Then she took a firm grip on the bull's neck, so that the jugular vein swelled like damp rope.
- 4 A. The rope got wet.
 - 2 B. Blood was coming from the vein.
 - 5 C. She pulled on the rope.
 - 3 D. The vein was made of wet string.
 - 1 E. The vein stuck out.
25. Dead leaves follow the wind and have no resting place during a storm. The twig that has fallen into the river goes where the stream carries it. The poor are like the leaves in the storm or the twig in the river: plaything of forces which they do not control, which they sometimes do not even understand.
- 4 A. Leaves blow in a storm and twigs float in a river.
 - 1 B. Poor people have no place to live and are pushed around by others.
 - 5 C. Poor people walk in the leaves and in the river.
 - 2 D. Poor people are thin and do not have food to eat.
 - 3 E. Poor people float in the air and in the river.
26. The wooden soldiers stood exactly as he had seen them when Jane interrupted. They hadn't moved a tenth of an inch. They were as dead as ninepins. They had frozen again.
- 4 A. There were nine pins.
 - 1 B. The soldiers did not move at all.
 - 5 C. Jane shot the soldiers.
 - 2 D. There were nine, straight soldiers.
 - 3 E. There were nine, dead soldiers.
27. He felt the Duty Centurion grow tense as a strung bow beside him. The moments crawled by, the silence became a physical pressure on his eardrums.
- 4 A. Bows have strings.
 - 1 B. The commander was stiff.
 - 5 C. It's fun to shoot arrows.
 - 2 D. The commander was bent over.
 - 3 E. The commander used a bow and arrow.

28. ... THEN Mrs. Brace-Gideon would come sailing in like a battleship and start to sing.
- 3 A. She can sail a ship.
 - 2 B. She can float.
 - 5 C. She won the fight.
 - 1 D. She was large and powerful.
 - 4 E. The ship is used in war.
29. Off they [the boys] went, bucking and yelling, as wild as Tuscarora Indians.
- 2 A. They wanted to go and fight.
 - 3 B. They rode horseback.
 - 4 C. Indians are wild.
 - 1 D. They were excited.
 - 5 E. They shot bows and arrows.
30. Through experience he now felt sure that most of the wild animals would slip away like shadows from his path.
- 2 A. You cannot touch the animals.
 - 1 B. The animals move quickly and quietly.
 - 4 C. Shadows move.
 - 5 D. The animals are dead.
 - 3 E. The animals' shadows moved.

THE END

APPENDIX E

RECORDED INTERVIEW FORMAT

SIMILES USED IN THE INTERVIEWS

Card 1

He was a small Chagga [member of a tribe] with fits like hams, a round polished face, and perpetual grin.

Card 2

... Suddenly he remembered the flood of sunset light in his sleeping-cell at Calleva, that evening when Esca and Cub and Cottia had come to him in his desperate need. He called it up now, like golden water, like a trumpet call, the Light of Mithras. He hurled it against the darkness, forcing it back --- back --- back.

Card 3

They [the soldiers] swung in their tracks, towards the nearest tongue of the birch woods that were spreading like a stain through the ragged mist, but even as they did so, the signal cry rose from among the golden trees in answer.

Card 4

... all the animals were on the move, faintly visible from the train ...

Andrew, watching through the window, grew pensive. He understood why the bushbaby could not be released. It would be like throwing a small child into an arena of lions.

Card 5

Peter, however, had never given his arm to anyone in his life. Clara put her's in his, but he kept his own hanging down straight beside him like a stick.

Card 6

Broomtail's [the horse's] eyes were as bright as sunlight.

Card 7

... The minute my back was turned, she pushed her way out [of the crowd].

"She was just like a wild animal," a woman in the store said, "She knocked me over."

Card 8

Dead leaves follow the wind and have no resting place during a storm. The twig that has fallen into the river goes where the stream carries it. The poor are like the leaves in the storm or the twig in the river: plaything of forces which they do not control, which they sometimes do not even understand.

Card 9

He felt the Duty Centurion grow tense as a strung bow beside him. The moments crawled by, the silence became a physical pressure on his eardrums.

Card 10

Off they [the boys] went, bucking and yelling, as wild as Tuscarora Indians.

RECORDED INTERVIEW FORMAT

Hello I'm going to talk to you for a few moments about some of the phrases that we may use in our daily conversation and then I'm going to ask you to do something for me.

In our daily conversations we often compare one thing or action with another. These things that we are comparing may be very different except for one characteristic or quality that they have in common. Sometimes we might compare a plane to lightning, by saying a plane may go as fast as lightning or a person may be compared to an ox by saying that he is as strong as an ox. A child who is happy might be said to be as happy as a clam, or a person who is sly might be said to be as sly as a fox. You can, I am sure, think of many more comparisons other than the ones I have given you.

Have a look at the object in front of you. What does it remind you of? Does it look like anything else that you know? Could

you compare it to something else that you know? Is it as pretty as anything else? Does it have the same size as something? Does it remind you of some other characteristic or quality?

Authors, when they write, often compare one thing to another. I would like you to read some of the passages that authors have written. I have taken these passages from children's books. Then I would like you to consider what the underlined words might mean. These underlined words are called similes. You are asked to read the whole of each passage written on each card and then to answer a few questions about what you have read. Most of these questions will be related to the underlined words or simile. This is not timed so relax and do the best you can.

In order for me to keep track of the questions I want to ask you and also all the things that you are thinking about when you read these, it will be necessary for us to use two tape recorders. This tape recorder will have the questions that I want you to answer and the other tape recorder will be used for keeping track of what you say.

Read the passage written on Card 1 to yourself.

He was a small Chagga [member of a tribe] with fists like hams, a round polished face, and perpetual grin.

What do the underlined words mean? Why do you think that they mean that? What feelings does the simile give you?

Read the words printed on card number two.

... Suddenly he remembered the flood of sunset light in his sleeping-cell at Calleva, that evening when Esca and Cub and Cottia had come to him in his desperate need. He called it up now, like golden water, like a trumpet call, the Light of Mithras. He hurled it against the darkness, forcing it back --- back --- back.

What do the underlined words mean? Why do you think that they mean that?

What feelings does the simile give you?

Read the passage printed on Card 3.

They [the soldiers] swung in their tracks, towards the nearest tongue of the birch woods that were spreading like a stain through the ragged mist, but even as they did so, the signal cry rose from among the golden trees in answer.

What do the underlined words mean? Why do you think that they mean that?

What feelings does the simile give you? What does "the nearest tongue of the birch woods" mean as it is used in Card 3? What meanings do you know for the word "stain?"

Read Card 4.

... all the animals were on the move, faintly visible from the train ...

Andrew, watching through the window, grew pensive. He understood why the bushbaby could not be released. It would be like throwing a small child into an arena of lions.

What do the underlined words mean? Why do you think that they mean that? What does the phrase "arena of lions" mean to you?

Read Card 5.

Peter, however, had never given his arm to anyone in his life. Clara put her's in his, but he kept his own hanging down straight beside him like a stick.

What does the simile mean? Why do you think it means that? What feelings does the simile give you?

Read card number 6.

Broomtail's [the horse's] eyes were as bright as sunlight.

What does the simile mean? Why do you think it means that? What feelings does the simile give you?

Read card number 7.

... The minute my back was turned, she pushed her way out [of the crowd].

"She was just like a wild animal," a woman in the store said, "She knocked me over."

What does the simile mean? Why do you think it means that? What feelings does the simile give you?

Read card number 8.

Dead leaves follow the wind and have no resting place during a storm. The twig that has fallen into the river goes where the stream carries it. The poor are like the leaves in the storm or the twig in the river: plaything of forces which they do not control, which they sometimes do not even understand.

What does the simile mean? Why do you think it means that? What feelings does the simile give you? What happens to leaves in a storm? What happens to twigs in a river?

Read card number 9.

He felt the Duty Centurion grow tense as a strung bow beside him. The moments crawled by, the silence became a physical pressure on his eardrums.

What does the simile mean? Why do you think it means that? What feelings does the simile give you? What does the word "centurion" mean to you? What does "strung bow" mean to you?

Read card number 10.

Off they [the boys] went, bucking and yelling, as wild as Tuscarora Indians.

What does the simile mean? Why do you think it means that? What feelings does the simile give you?

Thank you very much for helping me to find out what grade five students think about when they read. Would you please say your name into the tape recorder so that I can keep track of each person's ideas.

APPENDIX F

QUESTIONNAIRE

QUESTIONNAIRE

NAME _____ Boy _____ Girl _____

School _____ Birthdate _____

Room or Class _____ Age _____

I would like to find out what Grade five students are interested in.

In order to do this I am going to ask you some questions. Use a check mark (✓) to show which answer is most suitable to you. This information will not be given to anyone else.

(1) Do you belong to any of these clubs?

Cubs _____ Brownies _____ The "Y" _____

Scouts _____ Girl Guides _____ Hockey Clubs _____

Baseball Clubs _____ Pioneer Girls _____ List Any Others _____

(2) Have you been on any trips?

In Strathcona (Edmonton) _____

In Alberta (but not Edmonton) _____

In Canada (but not Alberta) _____

U.S.A. _____

Outside North America _____

(3) Where have you lived?

In Strathcona (Edmonton) _____

In Alberta (but not Edmonton) _____

In Canada (but not Alberta) _____

U.S.A. _____

Outside North America _____

- (4) I watch TV - not at all _____
 0 to 3 hours a day _____
 more than 3 hours a day _____
- (5) I go to movies - not at all _____
 1 or 2 a month _____
 3 or 4 a month _____
- (6) The number of books I read each week is - none _____
 part of one _____
 one or more _____
- (7) I read a newspaper - not at all _____
 about once a week _____
 every day _____
- (8) About how many books are in your home?
 0-49 _____ 50-99 _____ 100 or more _____
- (9) About how many books belong to you?
 0-9 _____ 10-49 _____ 50 or more _____
- (10) Do you borrow books from any library?
 not at all _____ once or twice a month _____ every week _____
- (11) Were stories read to you before you started school?
 no _____ yes _____ don't know _____
- (12) Did you know how to read before you started school?
 no _____ yes _____ don't know _____
- (13) What one thing do you like to do best in your spare time?
- | | | | | | | | | |
|--|--|-----------------|--|--|-------------------|--|--|----------------|
| | | Play sports | | | Watch T.V. | | | List any other |
| | | Go to movies | | | Read | | | _____ |
| | | Listen to radio | | | Listen to records | | | _____ |

APPENDIX G

SUMMARY OF ANALYSIS OF VARIANCE AND HOMOGENEITY OF VARIANCE

CALCULATIONS

TABLE XXIX

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY TOTAL I.Q.

Scores	Source of Variance and Mean Square	C F	F	P	Homogeneity of Variance	
					Chi Square	P
Correct	Between Groups	Within Groups	2	71	33.19	0.000
Inappropriate Commonality	12.88	3.67	2	71	3.51	0.035
Confused Relationship	84.18	6.91	2	71	12.19	0.000
Paraphrasing	61.44	3.57	2	71	17.20	0.000
Incorrect	26.21	1.53	2	71	17.14	0.000

TABLE XXX

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY VERBAL I.Q.

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	551.11	23.46	2	71	23.49	0.000	4.232	0.121
Inappropriate Commonality	15.19	3.61	2	71	4.21	0.019	2.155	0.340
Confused Relationship	84.23	6.91	2	71	12.19	0.000	13.902	0.001
Paraphrasing	39.44	4.19	2	71	9.41	0.000	11.938	0.003
Incorrect	17.60	1.77	2	71	9.93	0.000	22.144	0.000

TABLE XXXI

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY NON-VERBAL I.Q.

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	374.50	28.43	2	71	13.17	0.000	3.604	0.165
Inappropriate Commonality	5.00	3.89	2	71	1.28	0.283	2.921	0.232
Confused Relationship	45.55	8.00	2	71	5.70	0.005	3.937	0.140
Paraphrasing	40.80	4.15	2	71	9.82	0.000	7.713	0.021
Incorrect	14.99	1.85	2	71	8.12	0.000	33.624	0.000

TABLE XXXII

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY RAW SCORE ON STEP

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	764.21	17.46	2	71	43.78	0.000	15.164	0.000
Inappropriate Commonality	33.15	3.10	2	71	10.69	0.000	1.182	0.554
Confused Relationship	122.20	5.84	2	71	20.93	0.000	19.019	0.000
Paraphrasing	43.08	4.09	2	71	10.54	0.000	16.147	0.000
Incorrect	20.22	1.70	2	71	11.91	0.000	22.413	0.000

TABLE XXXIII

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY AGE

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	415.51	27.28	2	71	15.23	0.000	3.877	0.144
Inappropriate Commonality	9.24	3.77	2	71	2.45	0.094	0.278	0.870
Confused Relationship	86.42	6.85	2	71	12.62	0.000	10.458	0.005
Paraphrasing	33.87	4.35	2	71	7.79	0.001	10.402	0.006
Incorrect	10.22	1.98	2	71	5.16	0.008	24.048	0.000

TABLE XXXIV

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES
TEST BY SEX

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	1.48	38.42	1	72	0.04	0.845	0.187	0.665
Inappropriate Commonality	1.67	3.96	1	72	0.42	0.518	0.084	0.773
Confused Relationship	0.51	9.14	1	72	0.06	0.814	0.004	0.951
Paraphrasing	0.35	5.22	1	72	0.07	0.796	0.671	0.413
Incorrect	1.12	2.22	1	72	0.51	0.480	8.084	0.005

TABLE XXXV

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST BY
FREQUENCY OF NEWSPAPER
READING

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	143.22	34.95	2	71	4.10	0.021	0.162	0.922
Inappropriate Commonality	4.43	3.91	2	71	1.13	0.328	0.208	0.901
Confused Relationship	68.58	7.35	2	71	9.33	0.000	2.957	0.228
Paraphrasing	0.09	5.30	2	71	0.02	0.984	0.999	0.607
Incorrect	6.27	2.09	2	71	3.00	0.056	6.091	0.048

TABLE XXXVI

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST
BY BOOKS IN THE HOME

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	89.11	36.47	2	71	2.44	0.094	0.108	0.948
Inappropriate Commonality	13.98	3.64	2	71	3.84	0.0261	1.491	0.475
Confused Relationship	17.46	8.79	2	71	1.99	0.145	2.584	0.275
Paraphrasing	2.24	5.24	2	71	0.43	0.654	1.540	0.463
Incorrect	1.11	2.24	2	71	0.50	0.610	0.181	0.914

TABLE XXXVII

ANALYSIS OF VARIANCE AND HOMOGENEITY
OF VARIANCE ON SIMILES TEST BY
FREQUENCY OF BOOKS BORROWED
FROM ANY LIBRARY

Scores	Source of Variance and Mean Square		D F		F	P	Homogeneity of Variance	
	Between Groups	Within Groups	Between Groups	Within Groups			Chi Square	P
Correct	193.94	33.52	2	71	5.79	0.005	0.056	0.973
Inappropriate Commonality	16.25	3.58	2	71	4.54	0.014	2.876	0.237
Confused Relationship	41.00	8.12	2	71	5.05	0.009	6.823	0.033
Paraphrasing	5.09	5.16	2	71	0.99	0.378	1.233	0.540
Incorrect	11.59	1.94	2	71	5.97	0.004	18.529	0.000

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